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The Planning and Construction of Gas Works.

THE planning and construction of gas works calls for engineering rather than for architectural ability, but there is nevertheless ample scope for architectural skill to be brought into action in the design and erection of the extensive buildings required for the housing of machinery and plant on all modern gas works of importance. The prosperity of the gas industry in this country, which is to a considerable extent due to the general use of gas for fuel and power purposes, is responsible for the growing dimensions of the various buildings and structures required in connexion with the manufacture, distribution, and sale of gas. With their increasing magnitude, these structures are becoming more and more conspicuous features of all our large towns, and it is, therefore, a matter of public concern that, as far as is practicable, they should be of architectural or artistic merit.

Smoke, dust, and stink are concomitants of the carbonisation of coal and the treatment of residuals which cannot, perhaps, be altogether avoided, but a gas works need not be an eyesore even in a rural district. Contrary to general belief, the atmosphere of a gas works is not prejudicial to plant life; and trees, shrubs, and flowering plants may be seen growing luxuriantly within the walls of many gas works both in town and country. With good engineering, reputable architecture, and a little attention to horticulture and arboriculture, a gas works may become almost as inoffensive as a well-kept water works. In justice to the gas engineering profession, it must be admitted that constructions formed of a miscellaneous collection of old boiler-plates, corroded sheets of corrugated iron, and dilapidated window frames obtained by bargaining with house-breakers, which do duty as factory buildings in many industries, are seldom seen on a gas works, and that in many instances everything that can reasonably be looked for in the way of good building has been accomplished.

The issue of a ninth edition of Hughes's small handbook on gas works * calls to memory the many changes which have occurred in gas engineering practices during the fifty years which have elapsed since the first edition was published. The adoption of stoking machinery operated by compressed air, hydraulic power, or electricity, has only become general within the last fifteen years; and plant for the generation of carburetted water-gas was not erected in this country until the year 1891; whereas more than one hundred British gas works are now provided with manufacturing plant of this description. Gas-holders have largely increased in dimensions, and notable changes in the methods of constructing them have been witnessed. The erection of plant for the manufacture of sulphate of ammonia has become general, and gas is commonly distributed under higher pressures than formerly. The erection of special buildings for the cleaning and repairing of gas fires and cookers, and the provision of one or more show-rooms in the business quarter of the town supplied with gas, may also be regarded as comparatively modern developments of the industry.

In the preface to this ninth edition it is stated that all out-of-date references have been eliminated, but several paragraphs which reveal the antiquity of previous editions of the book have escaped Mr. O'Connor's revision. For example, turning to the description of Sir George Livesey's gas-holder of 12,000,000 cubic ft. capacity, which was erected at East Greenwich more than ten years ago, we read that "the tank of this holder, *which is now in the course of construction*, is 304 ft. in diameter and 31 ft. 6 in. deep, and projects 17 ft. above the level of the ground, for, on account of the abundance of water in the site (as it adjoins the Thames) the excavation could not be sunk deeper without extraordinary expense in pumping." Again, on page 80, it is stated that "gas lighting was first introduced about eighty years ago"; as a matter of fact, Professor Lewes delivered the Murdoch memorial lecture, entitled "A Century of Work on the Development of Light from Coal Gas," before the Gas Institute twelve years ago; and on

* "Gas Works: Their Construction and Arrangement and the Manufacture and Distribution of Coal Gas." Originally written by Samuel Hughes. Ninth edition, revised by Henry O'Connor. London: Crosby Lockwood and Son. 1904.

page 81 of the book itself reference is made to Creighton's attempt to introduce mechanical stoking for gas manufacture in the year 1808.

The book discusses in a general manner most of those subjects which ought to be studied in detail by every gas engineer. This cursory treatment renders it interesting to those who are not professionally associated with gas manufacture, but who nevertheless take an intelligent interest in industrial operations. It also makes the book valuable to the young gas student, since it places before him in readable form much accurate and useful information, and is likely to induce him to turn for further information to those larger treatises on gas engineering which deal with the same subjects in fuller detail. The principal fault of the present edition is that, although many new and useful paragraphs have been added, the book has not been brought quite abreast of the times. We find no mention, for instance, of the Dellwik process of water-gas manufacture, although Dellwik plant has been working at Ilford, Tipton, West Bromwich, and elsewhere for a considerable period. The electrical charging machines now in use at Derby, Paris, and other places have also escaped mention. On the other hand, the references to brick retorts might with advantage have been deleted.

The most seriously defective chapter is that on "Burners and Glasses." Incandescent lighting under normal pressures is dismissed in a short, but very much out-of-date and misleading paragraph; while, in a subsequent paragraph, the reference to a home-made lamp using hot gas and hot air, and having an efficiency of eighty-six candles per cubic ft. of gas consumed, should, in our opinion, have been omitted.

A detailed description of the planning and construction of a large modern gas works would fill a volume of considerable dimensions, and could hardly be attempted in these columns; but much of the constructive work which has to be carried out on such a works is of general interest to all concerned with building, and we may take the present opportunity of referring to the principal noteworthy features associated therewith. Before proceeding, however, it may be well to briefly refer to the order of procedure in gas manufacture as commonly carried on in the larger British factories.

The coal has to be unloaded from ships or barges and conveyed to the coal stores, or, if the coal has to be imported by rail, the trucks are shunted on to a siding, and thence direct to the coal stores. From the stores the coal is transferred to the hoppers of machines which place the coal in red-hot retorts. Each retort receives a charge of 6 cwt. of coal. The number of retorts varies, of course, with the quantity of gas to be produced, but a retort-house of fairly large dimensions will contain, say, 150 retorts; and on a large works four or five of these retort houses will be provided. The Beckton works are built on a much larger scale, but these are exceptional. The retorts are heated in furnaces maintained at a bright red heat by the combustion of producer gas generated in producers situated beneath the furnaces, the producers being fed with hot coke. The gas evolved when the coal is placed in the retorts passes up ascension pipes to the hydraulic main, and thence through the condensers, washers, scrubbers, purifiers, and station meters to the gas-holders. Tar and ammoniacal liquor are collected from the hydraulic main, condensers, and washing apparatus, and are stored in large tanks or water-tight wells. Five or six hours after the coal has been placed in the retorts gas ceases to be evolved, and the residual coke is then withdrawn and quenched with water. The retorts are immediately recharged with coal. It is important that the gas should not be allowed to accumulate under pressure in the retorts, and, as the washers, scrubbers, purifiers, and gas-holders throw considerable "back pressure," a description of pump termed an "exhauster" is connected to the inlet of the washers or condensers. The exhauster draws the gas from the retorts as rapidly as it is evolved from the coal, and forces it through the purifying apparatus into the gas-holder.

Site and General Design.—In many instances gas works established more than fifty years ago on the outskirts of a small town have gradually been hemmed in on all sides by dwelling-houses, until at length they have become more or less centrally situated in a thickly-populated district. The ground adjoining the works has meanwhile become too valuable to permit of its purchase for extensions, and the site occupied by the works has also increased in value. Consequently, a new and larger site more remote from the residential portion of the town has been secured for the manufacturing department; while the large blocks of offices and show-rooms which have become necessary, owing to the increase in the number of gas consumers, the development of the business of supplying fires and cookers on the rental system, and the increased office work entailed by the popularity of the penny-in-the-slot meter, have been erected on a portion of the old site or on some other site conveniently situated in the business quarter of the town. The central offices are, of course, in telephonic communication with the works. In London, more than a quarter of a century ago, the Gas Light and Coke Company found it expedient to close their city manufacturing stations and erect new works at Beckton, some seven miles distant, on a site of over 300 acres in extent. The most recent important removal is that of the Hastings and St. Leonards Gas Company, who will shortly commence manufacturing on their new works, now nearing completion, which have been erected at Glyne Gap, on the waste land between St. Leonards and Bexhill. Similarly new works to supply Edinburgh with gas were last year opened at Granton.

The site selected for a gas works should be one of the lowest levels in the district, and should be one on which coal can be readily and economically delivered. Water carriage is, as a rule, the cheapest, and a waterside site is therefore usually selected if available. Failing this, a site adjoining a railway is chosen. The soil should by preference be one in which a brick or concrete gas-holder tank, say, 40 ft. in depth, can be readily constructed. The water met with in excavating is often a source of great expense and inconvenience to the gas engineer. In colliery districts the site should be one to which the coal can be most economically conveyed direct from the mine to the retort houses.

In the case of waterside works it is a common practice to raise the coal from the ships or barges in buckets or grabs by means of steam or hydraulic cranes, the coal being discharged into trucks on a high-level railway. The trucks are propelled along overhead trestle-work lines into the upper part of the coal stores, which adjoin, or form a portion of, the retort houses. From the trucks the coal is allowed to fall into its allotted place. On large works small locomotives running on a ground level track are used for the transport of material to and from different parts of the works. The relative positions of the various buildings required for plant and machinery must differ in accordance with differences in local conditions.

In planning a works only one entrance should be provided; and close to the entrance should be the gate-keeper's lodge, the weighbridge, the store-keeper's offices, and any offices to which the general public must have access. In many cases a house is provided on or adjoining the works for a resident foreman or manager, and in such cases the residence should be close to the entrance, or else have a front entrance opening upon the public street, and a back or side entrance in direct communication with the works. It is desirable that unauthorised persons should not be able to gain access to, nor employees to leave, the works without passing the gate-keeper.

Coal Stores.—The coal stores are frequently situated within the retort houses. In other cases they are merely covered spaces without walls situated in close proximity to the retort houses. The proportionate storage space required is dependent upon the facility with which fresh supplies can be obtained. A works adjoining a colliery need not stock a large supply, but where the supply has to be brought from a distance, and the delivery is liable to interruption, a larger stock must be maintained. Generally speaking, provision should be made for the storage of at least as much coal as will be required during two winter months.

Retort Houses.—These should be substantially built of brick, and have, by preference, slate roofs. There are two stages in most modern houses—an upper stage from which the retorts are charged and the residual coke withdrawn, and a lower stage from which the furnaces are clinkered. The red-hot coke, as it is raked out from the retorts, is allowed to fall through an opening in the upper stage to the lower stage, where it is quenched with water. The upper stage is usually about 10 ft. above the lower, and is commonly formed of cast-iron plates supported on iron columns. The dimensions of retort houses vary, of course, very greatly. They are frequently made about 75 ft. in width and about 40 ft. in height from the lowest floor to

the springing roof. The length will vary according to the number of retorts, and a house is sometimes constructed with a view to its being lengthened when the gas output has to be increased. A fairly large works will probably possess four or five houses, each containing, say, 150 retorts. The rules to be observed in the construction of the outer walls of a retort house are merely those to be observed in the construction of any other building of similar dimensions. Light and air is admitted through the upper part of the walls, and attention must be given to ventilation. Outside the retort house space must be left for the storage of coke.

Purifying Houses.—Gas is commonly purified by passing it through oxide of iron and lime after it has been well washed with water. The houses are frequently constructed with three stages—the top stage, for storage of new lime and oxide; the second stage, on which the purifiers are supported; and the bottom stage, or ground floor, which receives the foul lime or oxide discharged from the purifiers. By the use of chutes, the purifying material is readily transferred from one floor to another. Purifiers were formerly housed in large brick buildings, but it is now a common practice to merely provide a roof and floors supported on metal girders and columns, the sides of the house being left entirely open.

Tar and Liquor Wells.—For the storage of tar and ammoniacal liquor, large tanks are required. These are commonly underground tanks or wells constructed with cement concrete or with brick laid in cement. Sometimes, however, the tanks are constructed of riveted iron plates and placed above ground. The choice of material must depend upon local circumstances.

Oil Storage Tanks.—Where carburetted water-gas is manufactured, provision must be made for the storage of many thousands of gallons of oil. The tanks to contain this oil are usually formed of riveted iron or steel plates, and are placed above ground.

Gas-holder Tanks.—The choice of material for the construction of gas-holder tanks must depend upon locality. In London concrete is perhaps to be preferred, but in some other districts brick-and-puddle tanks may be cheaper. In ground unsuitable for excavation steel tanks placed above ground on artificial foundations are now frequently used. Mr. H. E. Jones, in a paper communicated to the Institution of Civil Engineers in 1901, gave the following figures as representative of the cost of gas-holder tanks constructed with different kinds of material, presumably in the neighbourhood of London:—

(1) A concrete tank, in 1900, for a three-lift gas-holder containing 1¾ million cubic ft., cost 5,790*l.*, or 3*l.* 5s. 10d. per 1,000 cubic ft.

(2) A brick-and-puddle tank, for a three-lift gas-holder for 2¾ million cubic ft., would cost at the present date, in clay soil (the most favourable), 14,700*l.*, or 5*l.* 9s. per 1,000 cubic ft.

(3) A steel tank, for a four-lift holder for ¾ million cubic ft., constructed in 1899, cost 5,220*l.*, or 6*l.* 18s. per 1,000 cubic ft.

(4) A cast-iron tank, designed in 1897, for a three-lift holder for ¾ million cubic ft., was estimated to cost 8,975*l.*, or 14*l.* 5s. per 1,000 cubic ft., and was not carried out.

Gas-holders.—The same authority advocates the use of steel holders with untrussed crowns. When the holder grounds the crown and roof rest upon a timber stage permanently fixed in the tank. Guide framing for the upper lifts is now frequently dispensed with, while the framing for the lower lifts is of much lighter construction than formerly. Mr. Jones recommends "vertical members of rolled-joist section, strutted at short intervals by horizontal joists or girders, and braced by flat bars of steel. Thus the entire framing resembles a single lattice column large enough to enclose the holder." The heavy cast-iron columns which were formerly universally used for gas-holder guide-framing are now quite out of date.

THE NATIONAL TRUST.

THE National Trust, which held its annual general meeting on Wednesday afternoon at the Royal Society's rooms, is developing into an important power, and seems likely, if it receives adequate support in the way of funds, to realise a very great work for the nation, and more especially for future generations, in securing in perpetuity places of beauty which otherwise would almost infallibly be spoiled or destroyed for all purposes of public enjoyment. The Bishop of Southwark, who described his interest in the movement as being that of a "slum bishop," made a point in this respect in recurring to the condition of the surroundings of St. Saviour's sixty years ago, when there was a quiet oasis shaded with trees all about the neighbourhood of the church, under which his present parishioners might be now sitting had there been a National Trust existing at that time to secure the trees and the open space for them. Another question which comes into the purview of the National Trust is that of the destruction of the beauty of natural sites by the very means which are taken to bring people within easy reach of them. As Mr. Sidney Colvin said, in a speech which was admirable both in matter and manner (the speeches generally, we may observe, were quite above the usual level of oratory at public meetings), the consecration of certain scenes in the poetry of Wordsworth resulted eventually in a kind of rush to see them, which had the effect of entirely destroying the very quality for which the poet loved them; and the chairman, Sir Robert Hunter, in his opening remarks, while pointing out that the Trust took up no general position of hostility to railways, touring, and tourists, put the very crucial question in reference to the Snowdon light railway—what was the use of providing what were called easy and cheap means of transit for the public to places of natural beauty, in a manner which robbed those places of that very atmosphere of quiet and seclusion which gave them the greater part of their charm?

The National Trust, though its programme includes places "of historic interest" as well as "of natural beauty," has so far directed the greater part of its efforts towards the purchase and preservation of natural beauty, and this partly for a practical reason. Though the Trust has been successful in getting a good deal of money subscribed for special purposes, it is not at present a wealthy body; and it appears that the places of natural beauty which they have acquired bring in a sufficient amount of return, by rents for uses not interfering with their attractions, to make the Trust in this respect self-supporting; while ancient remains, on the contrary, require a certain expenditure in keeping them from further decay. A larger revenue may make a difference in this respect, but in our opinion the Trust is doing better for the country in securing sites of unspoiled country and preserving them than in any other possible expenditure of its energies.

This question came up in a concrete form in the third and the only really important resolution submitted to the meeting. On Wednesday, as usual, three out of the four resolutions were little more than formal, giving speakers the opportunity of saying anything they wished to say in regard to the policy and objects of the Trust; but the third one proposed a larger scheme than the Trust has yet taken in hand. The resolution ran—

> "That this meeting warmly approves of the proposal for the acquisition of Aira Force and Gowbarrow Fell on Ullswater by the National Trust, and pledges itself to use every endeavour to secure the required purchase-money."

This is a larger purchase than any which the Trust has hitherto attempted, and consists of some 750 acres of park and wild fell rising to a height of 1,578 ft. above sea level, together with a ravine through which the Aira Beck flows, and with a frontage of a mile to Ullswater shore. The owner wishes to sell, but has given the Trust for the present the first claim. Were the land to be sold publicly, there can hardly be a doubt that it would be utilised for building "attractive residences," and thus lose its wild character and be the occasion of intruding houses on to the banks of Ullswater. It is not so much from the desire to possess this estate, as the desire to prevent others possessing it who would put it to a utilitarian use, that the Trust urges the raising of funds to acquire it. The price is 12,000*l.*, of which only a small proportion is as yet promised, but the Trust has been so successful in other cases in procuring money for the objects it has at heart, that we have every expectation of its success in this effort also, and that we shall hear of the completed purchase at the next annual meeting.

The preservation of the beautiful waterfall, Aira Force, is another important object. Seeing that we have arrived at a time when every engineer regards a waterfall not as an object of beauty, but as an instance of power running to waste, it is necessary to look jealously after our waterfalls, or none of them will be left to us. The fate of Foyers is a warning not to be lightly forgotten; let us do what we can to preserve those that still remain from destruction.

NOTES.

The Post Office and Open Spaces. By means of a Government Bill now before Parliament, the Post Office seeks to obtain powers which will enable the department to disfigure open spaces without reference to the rights of the owners or guardians. The conservators of such areas have hitherto been able to prevent the Post Office from carrying telegraph wires across the commons, woods, and forests under their charge to the lasting injury of their charm and the destruction of their natural appearance. If the present Bill should become law, it is highly probable that such spaces as Wimbledon Common, Epping Forest, and other heritages of the people will be hopelessly disfigured by telegraph posts and wires. There is nothing to be gained by the passing of the measure in question beyond a slight reduction in the length of wire used, and we hope that all who are interested in the preservation of open spaces will unite in resisting the act of vandalism proposed by the present Government at the instance of the Postmaster-General.

Actions against Public Authorities. In these days, when municipal trading is on the increase, the case of Sharpington *v.* Fulham Board of Guardians is one of general interest. The defendants had entered into a contract with the plaintiff, a builder, to make certain structural alterations in a house with a view to converting it into a home for pauper children. The contract price was 4,599*l.*, and the contract contained an arbitration clause. The plaintiff alleged that he had been delayed in the work for thirty-six weeks over the contract time owing to the action of the defendants, and to alterations and changes made in the contract by them, and he claimed 1,357*l.* in addition to the contract price. The work was completed in May, 1901, arbitration was applied for in April, 1902, and the matter was referred to arbitration November 25, 1902. The defendants raised a preliminary objection in law that they were public authorities within the meaning of the Public Authorities Protection Act, 1893, and that the proceedings had not been commenced within six months next after the acts, negligence, or default complained of as prescribed by section 1. The Court held that the Act had no application to an action for breach of contract brought by a contractor, a private individual, on a contract made with him and having no connexion with the public duty to be performed by the public authority. This decision is very important, since it is obvious that the Public Authorities Protection Act was framed only to protect such authorities in their executive duties, and not when they were contracting in their new commercial capacity, and, apart from the time limit, the Act contains provisions giving public authorities great advantages as to costs if they are sued unsuccessfully, which would be most unfair were the Act to apply to their contractual relations with private persons. The defendants raised a second technical defence under the Board of Guardians (Payment of Debts) Act, 1859, in which they were also unsuccessful.

Assignees of Leasehold. The principle of limiting covenants on sale of freehold to an indemnity has had an important application to leaseholds in the case of Harris *v.* Boots. The plaintiffs were lessees of certain premises in Brighton under a lease for thirty years, which contained a clause restraining them from making any alteration or addition to the premises without leave in writing. The plaintiffs assigned their interest in the said premises to the defendants, who were also in possession of the adjoining premises, and with the leave of the lessor all the premises were thrown into one. The assigned premises proving insanitary, certain alterations were made by the defendants, amongst other things a window was knocked through. The plaintiffs therefore proceeded against the defendants for a breach of the lease and for a mandatory injunction to restore the premises. The lessor, it is to be observed, who had an interest in the property, had taken no proceedings. In these circumstances the Court held that the covenant amounted only to a covenant to indemnify—that is to say, a covenant on the part of the assignees to indemnify the assignors against any claim for damages which might be made against them by the original lessor, and the action was dismissed. This decision is satisfactory, for it stands to reason that lessees who have parted with their interest in the premises (as was the case with the plaintiffs in this case) have no wish to enter upon litigation, but may feel compelled to do so to protect the property for the original lessor. Now, unless complaint is made by the person really interested in the property, the intervening lessee who has parted with his interest need take no proceedings, at any rate in the case of breach of negative covenants.

Steam Traffic on Roads. With the increasing use of steam traction for heavy traffic on the roads the case of the Attorney-General *v.* Scott will be read with interest. The defendant was the owner of a quarry in Monmouthshire, and also a hauler of stone from other quarries, and pending the trial of the action now decided he had been prohibited by an interim injunction, confirmed by the Court of Appeal, from using steam traffic on the roads at all. He was indicted for nuisance, in that it was said he rendered the roads dangerous and impassable for vehicular or other traffic. His defence was that the roads were improperly maintained with a view to the character of the ordinary traffic to be expected in that district, and he alleged that since the road had been put into a proper state the remedy of perpetual injunction was inapplicable and unreasonable. There was no allegation that any provision of the Locomotive Acts had been infringed or the traffic improperly conducted, and the case rested solely on the frequency and weight of the traffic. The Court, in a considered judgment, found that the bad condition of the road was not primarily caused by the defendant, but arose from neglect on the part of the county council in maintaining it in a fit condition for the traffic to be expected, and that after the road was properly constructed the traffic would cause little or no damage, and the injunction was refused and the interim injunction dissolved, on the defendants giving an undertaking not to resume the traffic until the reconstruction was completed. It should be noted that this question of nuisance is quite independent of the question of damages for excessive traffic, as is shown in the case of an action for damages by the Tavistock Rural District Council, in which, although a similar defence was raised, damages for extraordinary traffic were awarded.

Street Accidents. In response to a question asked in the House of Commons the Home Office have published a table of street accidents in the Metropolitan Police District known to the police. The total number of accidents attributable to motor-cars and cycles for the year ending May 31, 1904, is 1,817, those attributable to horses and horse-drawn vehicles 22,558. In these accidents the number of persons respectively injured was 640 by motors, 7,921 by horses, the fatal accidents being respectively 17 and 198. Some of the Press organs in the motor interest are making much capital out of the above figures, quite omitting the consideration of the difference in the numbers of horses as compared with motors in use in the Metropolis. Any comparison between the two classes of traction is almost childish, but during the period covered by this return we believe there were only 5,000 to 7,000 cars in all England, and to assume that there were 100 times as many horses as cars in use in the Metropolitan Area is probably to under-estimate the real number very considerably; but even on this assumption the proportion of the total number of accidents—7·4—attributable to motors, as compared with 92·6 attributable to horses, gives a very high average to motors in view of the small number in use.

Dangers from Electric Shocks. The embellished accounts of the fatal accidents due to shocks to trespassers and employees on electric railways, which have recently appeared in the daily Press, have given many people erroneous ideas of the dangers arising from electric shocks. It may be of use therefore to consider some of the dangers arising from this cause, as unreasoning panic may often be as dangerous as foolhardiness. Suppose, for example, that the trolley wire were to break and fall on the roof of a crowded car. In the event of the safety devices not acting, there will be a wire about a third of an inch in diameter on the car at a pressure of 550 volts from the earth. If the wire is pressing against the clothes of anyone it is exceedingly unlikely that he will feel anything, and even if it touches his skin the shock will only be appreciable if his boots are damp and the car roof wet. Even then it is not necessarily fatal. In the worst case, if anyone has grasped the wire and cannot let go, it will be perfectly safe for a fellow passenger to pull him away by grasping his clothes and putting a foot on the wire to prevent it striking others. To push the wire away or keep it down with a walking-stick is a perfectly safe proceeding. On a railway with an electrified conductor between the rails an ordinarily-

clothed person falling on the conductor would feel no shock unless his skin made contact both with the conductor and the rail. In the event of it ever being necessary, it would be fairly safe to walk beside the electrified conductor or even on it, provided that your boots were not soaking wet and that their soles were sound. In this case it would be advisable to keep your hands in your pockets. The only danger consists in stumbling, and making contact with your skin between the conductor and damp earth or a rail. It is always safe to pull at a victim's clothes. It must be remembered that a current from the high-pressure conductor will only flow through your body when your body forms a path to another conductor at a lower pressure, as, for example, a water pipe, a gas pipe, a damp wall, or damp earth. Walking beside the electrified conductor of a railway in a rainstorm without a mackintosh is as dangerous as walking on the edge of a precipice—you must not stumble, and you must not put your foot on the rail.

Dover Harbour.

ALTHOUGH the east pier of the commercial harbour at Dover will not be formally opened until September, it has already been used for Transatlantic traffic. This pier, commencing opposite a point between the Wellington and Granville Docks, is now called the Prince of Wales Pier, and extends considerably beyond the end of the old Admiralty Pier. It is worthy of note that the landing-stage on the new pier will accommodate ocean liners at any state of the tide, and that the pier itself will ultimately have a width of 245 ft. to provide still further for the requirements of the port. Railway lines have already been laid connecting the end of the pier with the shore, but we learn that a proposal is on foot to carry a viaduct direct from the South-Eastern Railway Station, next to the Lord Warden Hotel, to a point about halfway along the Prince of Wales Pier. This will leave a triangular area, between the new viaduct, the pier, and the tidal harbour, and it is probable that the area in question will ultimately be filled in to provide a site for the erection of quay sheds and other buildings.

Contamination of Water by Lead.

WE have received a small pamphlet of three pages dealing with lead in drinking water, by Dr. Aspinall Marsden, lately a medical officer of health in the North of England, in which he suggests that lead, undetected or unheeded, in water, is the cause of much illness and physical degeneration, and that the matter is of national importance. The author inveighs chiefly against moorland water supplies, but he does not state his case at all clearly. We gather that his experiences lie largely in an area whence water may be drawn from lead-bearing strata. The ordinary ore of lead, galena, is quite insoluble in water, but secondary minerals, such as cerussite, produced from it, are soluble in certain waters, *e.g.*, those highly charged with carbon dioxide. The upland lead-bearing districts in England are, however, not numerous; Alston Moor, North Derbyshire, and the North Wales coast hardly serve as a basis for a general indictment on these grounds. If, on the other hand, Dr. Marsden's suggestion is that nitrates, often plentiful in moorland waters, exercise a solvent action on lead pipes, his strictures cover a much wider field. Reference is made to the presence of nitrates, and it is well known that waters so contaminated, especially with ammonium nitrate, have a great solvent action upon lead. No impurity (in the absence of copper) is so easily detected and estimated in water as lead, and we should have thought that the writer's experiences would have provided figures which could answer at least some of the questions he raises. One-tenth of a grain of lead per gallon can be detected directly, and this is the amount taken by most analysts as sufficient to condemn a potable water. Smaller amounts may be found by a proportionate boiling down of the sample before testing. Fortunately hot water is not usually conveyed far in lead pipes for mechanical reasons, but it is difficult to provide a substitute for lead at a reasonable cost for a whole water system. Lead pipes could be drawn with a lining of tin, but perhaps some alloy of lead might increase our immunity from the danger of poisoning. A series of experiments on this subject with waters of various compositions would be of great value, and when, after a few more decades, we have come to realise the need for a National Chemical Laboratory, perhaps such investigations may be carried out. In the meantime we might appeal to such authorities as Professor Bedson and Dr. Oliver, of Newcastle, for some popular statement as to the effect of continued very small doses of lead upon animals.

The Parish Church, St. Giles-in-the-Fields.

A FACULTY will shortly be issued by the Consistory Court for carrying out some improvements and alterations in the fabric of the church. The rector and churchwardens propose to remove the monument to Chapman, the poet, and first translator of Homer into English verse, from against the outer side of the south wall of the church into one of the vestibules. Thomas Habington, in his poem "Castara," published in the year (1635) after Chapman's death, refers to Chapman's grave outside the (old) church. The monument bears two Latin inscriptions, whereof one is a copy of the original—the date has recently been corrected—that seems to have been cut upon a fresh slab inserted into the monument as erected by Inigo Jones to his friend—

GEORGIUS CHAPMAN POETA MDCXXXIV. IGNATIUS JONES ARCHITECTUS REGIUS OB HONOREM BONARUM LITERARUM FAMILIARI SUO HOC MON: D.S.P.F.C.

The concluding letters we take to signify *de suâ pecuniâ faciendum curavit*. The lower inscription records the restoration of the monument (in 1827), when it was protected with a hood formed of two stones placed at an angle. The faculty will authorise the separation of a part of the south aisle as a side-chapel, with a screen and a second holy table, and an exchange of the positions of the Bishop Patteson memorial window in the north gallery, and the present east window, which forms a memorial to Dr. J. Endell Tyler, rector, who, with the churchwardens, restored Chapman's monument. The monument is in the form of a stele, rising to a total height of 5 ft. 5 in. from the ground; the base, 29 in. wide, stands 25 in. from the wall, and the top portion consists of a carved finial now much weather-worn.

The Soane Museum.

WE are glad to announce that Mr. Walter L. Spiers has been appointed Curator of the Soane Museum as successor to the late Mr. Birch. Mr. Spiers assisted in the work during Mr. Birch's illness, and found it of so much interest that on the lamented death of the late Curator he determined to apply for the appointment, undertaking to give up any other professional work if appointed. Mr. W. Spiers was educated in the Engineering Department at King's College, London, and subsequently in the office of his brother, Mr. R. Phenè Spiers. In the Architectural Association, which he joined in 1866, he gained the first prize in the Class of Design, and Sir W. Tite's prize for a design for a town church. He passed the voluntary examination for membership of the Institute of Architects in 1870, and obtained a silver medal for measured drawings of Eastbury Manor House in 1873. He subsequently qualified and was appointed as a district surveyor, but has given a great deal of time to the kind of research which is specially desirable in a curator of a museum. The appointment is a very good one, on which we may congratulate both Mr. Spiers and the Soane Museum Trustees.

ARCHITECTURE AT THE ROYAL ACADEMY.—VI.

THE decorative works in the architectural room, although not so numerous as in recent exhibitions, partake largely of the nature of memorials. Contrary to anticipation, the designs for sculptured monuments are few and of no great public interest, except the Queen Victoria memorial, which we have already noticed. Of the remaining exhibits, Mr. Reginald Blomfield's "South African War Memorial, at Haileybury College" (1,558), is the most prominent. The design consists of a large obelisk rising from an ornate base, the four sides of which are convex, and terminate in large carved consoles, whilst the whole stands upon a flight of circular steps. The names of battles are placed upon small metal shields on the lower part of the obelisk, and an inscription is cut in a large carved trophy in each of the sides of the base. The drawing, which is made by the author, is excellent, in spite of the tall tree behind the subject, having an angry movement; the design has merit in its XVIIIth century aspirations, but the base is perhaps over-wrought with carvings, the simplification of which would have added to the dignity of the composition.

No. 1,480 is a "Competitive Design for Memorial Tower, Allahabad," by Mr. M. S. Hack, a very ordinary conception of no value to this exhibition. Plans are wanting, but we see sufficient to convince us that this tower will not construct as shown.

We are inclined to the opinion that a XXth century war memorial should primarily indicate the period of the incident intended to be immortalised. This is not the direct purpose of No. 1,524, "War Memorial to Old Cliftonians," designed by Messrs. Paul and James, with whom is associated Mr. A. Drury, A.R.A.; for it is seen that a heavy base with much XVth century Gothic detail, upon which stands a small armoured figure, presumably St. George, is obviously an attempt to harmonise the

monument with its earlier surroundings. A very good design for a mural monument is given in No. 1,632, by Mr. J. J. Shaw, to be executed in green and black marbles. A large central recess contains a white marble sarcophagus, embellished by a chain of metal wreaths and festoons, whilst figures of youths in the act of watching, are placed in smaller side niches. The idea suggests dignity and solemnity.

The majority of the designs for commemorative works, however, take the form of stained-glass windows, all very small in size, and not one of the drawings bears a scale or any other information to direct the imagination in studying these coloured reproductions. No. 1,479 is a square-headed window with a transome, in which the subject of St. George is introduced with an heraldic panel in the lower part, and the whole is enclosed within a foliated border. Mr. J. W. Lisle's colouring and composition are the two chief factors in this excellent design.

"Sketch for an East Window, Church of St. Ignatius" (1,516), by Mr. P. Woodroffe, is a distinctly clever handling of an early geometric style of glass, such as is found at Chartres. The *motif* of the design is seen in the series of elaborated quatrefoils set in an interlacing vine grisaille. The principal panel contains a figure of Christ in Ascension, and a connected arrangement of lines and colours appearing in all the central spaces, each of which has a subject, gives cohesion to the design, an element invariably absent in this kind of work. This is a good drawing of a most interesting window. "St. George" is the popular subject of decorative artists and re-appears in No. 1,518, which is a "scrap" of glass design, by Mr. H. Arnold. Here the colour is confined to the figure exclusively, which stands out as a large spot; a slight use of colour in the ground would carry off the hardness of such an arrangement to the benefit of the whole lancet, of which this drawing forms a part. No. 1,604, by Mr. J. D. Forsyth, is a six-panel, three-light traceried window; each of the three upper spaces contains single allegorical figures surmounted by canopies, while the lower spaces have groups of figures representing arts and sciences. The colours are somewhat crude, although the work is carefully drawn; but no window can stand two distinct scales in its figure treatment. A Renaissance feeling is given in No. 1,606, a square-headed window, by Mr. J. Ffelan, in which a figure of St. John is standing upon a kind of pedestal, surrounded by an arch-and-pilastered border. The natural attitude of the subject is unsuited to the conventionality of its setting, and the scale of the respective parts is unhappy. In No. 1,635, the same author reverts to tradition in canopied design, and is more successful.

Mr. W. Aikman sends a drawing of a window for "All Saints' Church, Blackrock" (1,636), in which the principal figure is clad in a rich, red robe. A dark green background is introduced, from which rises a "tree-stem" design, terminating with angels in the apex; the general effect should be very satisfactory.

No. 1,644, by Mr. G. Parlby, is one of the most beautiful drawings which have been hung in the Academy in recent years. It is a two-light traceried window, in which the subject of "The Annunciation" is most carefully and minutely indicated in a pre-Raphaelite manner. The colour scheme is excellent, and there are innumerable interesting and delicate accessories. The drawing, however, suggests a decorative painting more than conveying the impression of a work executed in leaded glass; the slight confusion of the design, therefore, would be accentuated by the constructional lines of the glazing. A contrast is seen in the roughness of the sketch for a single light window, No. 1,643, by Mr. O. E. Prest. Here is a figure of a bishop contained within a border consisting of an intertwining tree growth, twisted into various forms of cusped tracery. This kind of thing is not to be desired.

The decoration of interiors does not find a large place on the walls, and there is not one example of the complete treatment of a building. Although "The Saloon of an Orient Liner" (1,463), by Messrs. Stevenson and Redfern, is shown in an indifferent ink drawing, there are indications that colour is intended, as well as an extensive use of wood fittings. There is room for improvement in the design of most ship interiors, and this is quite an advance, worthy of a better drawing. No. 1,605 is "Hall Ingle in a Riverside House," the title given to a highly-coloured interior, designed by Mr. L. Wyburd. The scale of the furniture is very small in proportion to that of the apartment; or the hall is very high, and the timbers terrific. Resolved into present day terms in furnishing, this design is "a quaint note." The preliminary sketch for the decoration of the central hall at "St. Paul's Girls' School," by Mr. E. J. Lambert (1,641), is the kind of subject of which we could wish many more examples. The drawing shows the colour treatment of the barrel-vaulted ceiling of the most important part of the institution, and a very good scheme is indicated. By way of criticism we should say that, whereas most of the coloured designs are subordinated to the spaces occupied, the composition in the main tympanum and indeed the architecture of this end of the hall would gain considerably if the large painted subject received a more formal arrangement. This drawing probably loses value by its perspective view; elevations, and perhaps a key-view, would be more satisfactory.

There are two exhibits which, in view of the conservative character of these annual exhibitions, appear to be out of place, or is it possibly a sign of better things? No. 1,493 is a decorative coloured panel, by Mr. Alexander Fisher, representing St. Veronica. Groups of figures in flat relief are arranged about a Byzantine colonnade, making an interesting design, but it is placed much too high up to appreciate, and is more suitable for the Sculpture Galleries. In Gallery No. V. Mr. E. A. Abbey, R.A., shows a design for a Crucifixion, already mentioned, in which the coloured figures are conventionally treated and placed upon a gilt background. The panel is intended for a reredos in the Church of the Holy Trinity in Paris (361), and is instructive as indicating the sound ideas of decorative work of this great painter. But its right place is with the works in architecture, and not mixed with the pictorial reproductions of things natural. The size of the work, however, appears to have shown the hanging committee that the small chamber at disposal would not conveniently contain it.

This concludes our reviews of the drawings, etc., which illustrate architecture at Burlington House, and we are forced to summarise in the same strain as on past occasions. The practice of the architect is a wide-reaching process, and it is only necessary, in order to realise this,

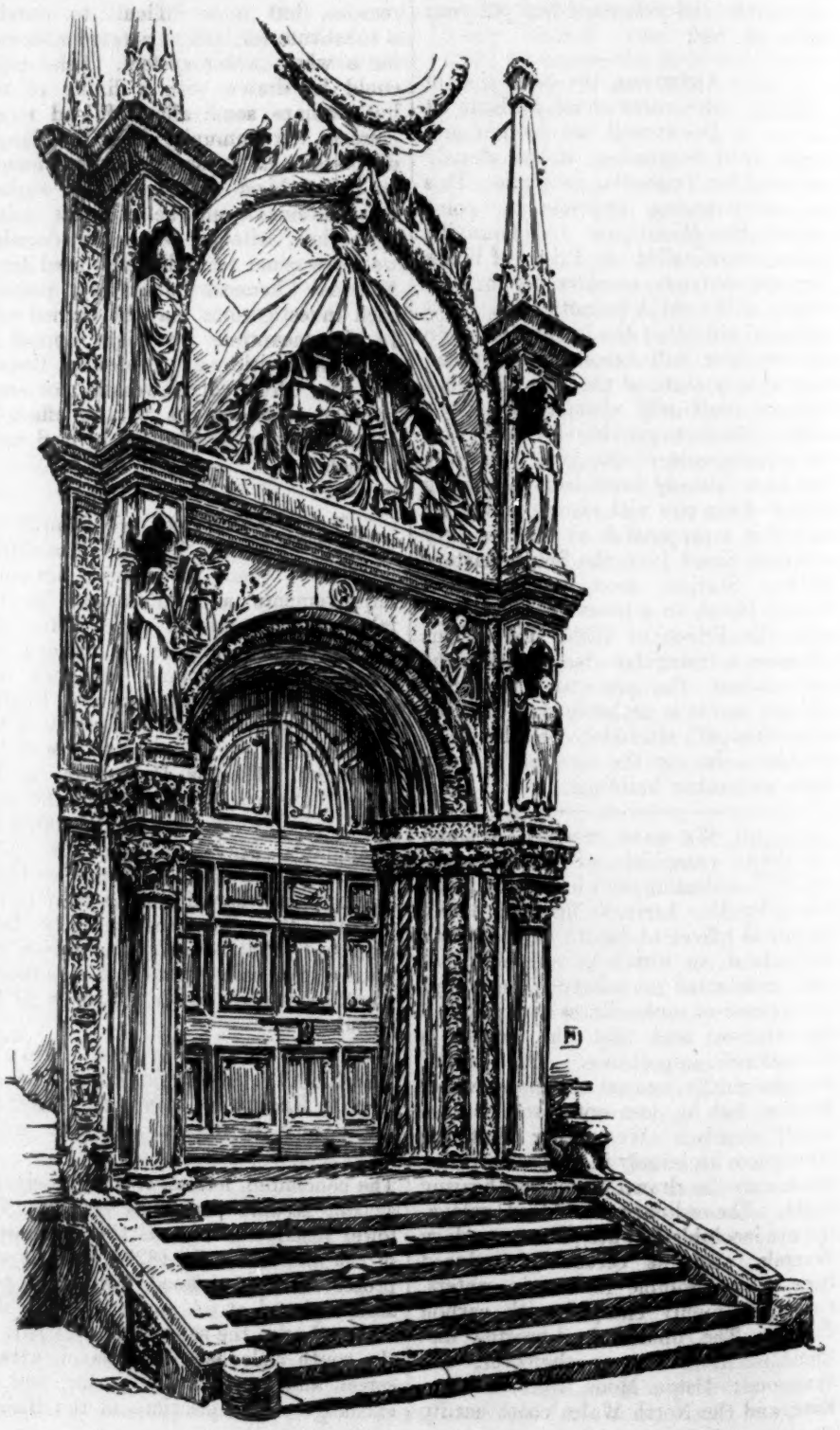

Fig. 1. Doorway, S. Agostino, Ancona.

Fig. 2. S. Ciriaco, Ancona.

to glance at the variety of subjects submitted in the architectural room. There is no encouragement for *grands projets* or works in any degree comprehensive, which are proportional to our national greatness; on the contrary, we find a limited selection in scraps of churches and cottages, in stained-glass and street fronts, hanging haphazard, as if by a kind of gracious indulgence from the painting authority in whom is vested the destiny of a living British art.

NOTES AND SKETCHES IN SOUTHERN ITALY.—I.

ANCONA.

ANCONA is the capital of a province and has a fine harbour. Its population is considerable, containing a large proportion of Jews; according to Baedeker, 6,000 out of 28,000, but Amati gives the figures as 2,000 and 32,000 respectively. It lies on the lowest slopes of Monte Conero, the Comerus or Cumerus of Pliny, between the promontories of Monte Astagno and Monte Guasco. From the summit of the latter the Cathedral S. Ciriaco overlooks the town and the harbour, standing on the site of a temple of Venus, which is mentioned by Catullus and Juvenal, while the other horn of the semicircle is occupied by the citadel. Below this is the lazaretto, built in 1732, a pentagonal fort with a drawbridge, now utilised as a bonded warehouse. The northern pier is fortified with two batteries, and is of Roman construction. At the beginning of it rises the triumphal arch erected in honour of Trajan in 115 A.D. by the Roman senate, said to have been designed by Apollodorus. It is Corinthian, narrow and lofty, built of Parian marble without mortar. It was once adorned with trophies, inscriptions, an equestrian statue of Trajan, and statues of Plotina and Marciana, his wife and sister; all these were removed by invaders in the Vth and Xth centuries. It is approached by steps and railed round. Beyond is another arch by Vanvitelli, which faces towards the sea. It stands on the continuation of the Roman pier, which was made by Clement XII.

The streets of the city are narrow and winding (except in the new part, which is more interesting to the inhabitants than to the traveller), and every now and then steps are made use of to conquer the steep more rapidly. The Palazzo Comunale was built about 1270. Margheritone of Arezzo made the design, and from the street below a good deal of the back part may be seen much as he left it. The façade and interior were altered in the XVth century by Francesco di Giorgio, and modernised in 1647. On the façade is a quaint relief of Adam and Eve of the original period, and others remain at the back. Within is a XIVth century statue of Marco de'Rossi, the legist. A little lower down a piazza has at one side an interesting façade of the same period. The Prefettura has a fine court with Gothic arcades, through which the street passes. The pointed arched gateways (which still have the chains used to block the street hanging by them) have been recast in Renaissance times with fluted attached columns, and other pointed arched openings have been disguised by additions in the same manner. The windows on the first and second floors have graceful arabesques on their friezes, and the machicolations beneath the cornice have been adapted as a decoration. The church of S. Francesco (now a barrack) has a very fine Gothic portal attributed to Giorgio da Sebenico, and so much resembling the Gothic work of Istria as to make the attribution probable. The church of S. Agostino (now also a barrack) has a striking doorway of similar style with a curious mixture of Renaissance detail (Fig. 1). Another building of the same character is the Borsa, called the Loggia de'Mercanti, built in 1459. The XVth century Palazzo Benincasa adjoins it. There are several late Renaissance churches, among which is one with a rococo spire, which is oval in plan, and has a spirally ascending arcading as decoration, giving it the strangest and most unstable appearance. An early Renaissance door of the church of S. Maria della Misericordia is rather over-rich, but pretty.

The most interesting buildings in Ancona, however, are the Cathedral (Fig. 2) and the church of S. Maria della Piazza. The façade of the former is ascribed to Margheritone, but there are many fragments of an earlier period worked up into the structure, without counting in the ten antique columns of the interior (the dedication was to S. Lorenzo until the Xth century). The dodecagonal cupola is believed to be the earliest and one of the finest in Italy. It was filled with scaffolding and undergoing restoration, so the writer has no opinion on the point. The plan is a Greek cross, each of the arms being flanked with aisles. The nave arcade is round arched, with buttress slips above each column. A dentilled cornice crowns the whole wall, and a string separates a blank clerestory space from the arcaded portion. The wooden roof is like that of S. Zeno, Verona, in shape, and is painted blue and white with yellow rosettes in each square. In the right transept there are three queer flat and shallow Ionic caps, with a heavy ornamented block above, and a cushion abacus above that which is moulded at the top and bottom, but otherwise plain. These appear to be of the IXth century, and much resemble some figured by Cattaneo. There is a crypt below each transept, and on the right is a fine parapet wall with panels bearing incised designs, relief being given by the ground being tooled back for a space. There are four slabs on one side, with storks, an eagle, peacocks, and griffins respectively, the first facing each other on each side of a pomegranate tree, the second clutching a rabbit in its claws, the third with a poplar-leaved tree between them, and the fourth with branching conventional lilies and a central stem. The design is striking, though the execution is rough, and is probably copied by local carvers from Byzantine originals. On the other side figures stand in couples beneath arches—three couples and one single figure, the background being inlaid with reddish marble. Apparently this parapet wall was remade in the XIVth century, to which period the framing and the figures appear to belong. In the crypt below are many interesting sculptured fragments of various dates—a XIIIth century relief of Christ between symbols of the Evangelists, signed Philippus; three XIIth century statuettes, probably from the left transept, the sarcophagus of Titus. F. Gorgonius, prætor of Ancona; a IVth century work with reliefs of Old and New Testament subjects; the sarcophagus of S. Marcellinus, a statue of S. Primianus and other fragments, both of architectural and figure sculpture. The crypt of the left transept has been modernised in the baroque style. Here are the tombs of SS. Cyriacus, Marcellinus, and Liborius.

The façade has a beautiful porch with griffins, one holding a ram and the other a serpent. The drawing gives a general idea of the design of the church. The south door is largely made of earlier fragments, and probably a good deal of work was done in the XIVth century, using up material of an earlier period. Many flat reliefs are incrusted in the façade, and pieces of grey cipollino applied for decoration without constructional value. Close by is the campanile, and at the other side the archbishop's palace, where Pius II. closed his weary life in the consciousness of failure in 1464. He provided his blessing and indulgences in plenty for the crusade against the Turks which he had preached, but neither money nor arms.

The church of S. Maria della Piazza has a façade of 1210 with much carving by Philippus; a central round arched doorway with elaborate archivolt (Fig. 3) and rows of arches across the whole façade. At the side is a pointed arched doorway and a round arched corbelled cornice, which also occurs at the summit of the nave wall. The proportions have been altered by Renaissance additions. In the wall of the façade, behind the arcading, are some pieces of interlacing inlaid work with gilded tesseræ still

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adhering, which seem to show an earlier use of them in this connexion than is generally allowed. The springings of arches in the main piers show that there was once a porch. The *scodelle* under the first row of arches are coarsely painted majolica of late date. This façade now so much blackened by age was built of white and pink marble.

The origin of the town is lost in the mists of antiquity. Pliny says it was founded by the Siculi fifteen centuries before Christ, Strabo that it was founded by Syracusans flying from the tyranny of Dionysios about 400 B.C. The name is derived from the Greek ἀγκων, an angle, referring to the shape of the coast. It became the capital of Picenum, and fell under the power of Rome in 268 B.C., when it was made a colony and an important maritime station. Besieged by the Goths under Totila, it was succoured by Belisarius (551), and became the principal city of the Pentapolis under the Greek Exarchs, but was afterwards conquered by the Lombards. It was given to the Pope by Charlemagne on the destruction of their kingdom. In 839 the Saracens burnt it. In 1058, remembering that damage, it joined the Normans. Nicholas II., therefore, anathematised it, but removed the curse at the intercession of S. Peter Damian. It was attacked in turn by the troops of the Church and of the Emperor, and in despair put itself under Emanuel Comnenus for forty years, from 1143. It was twice besieged by Frederick II. during this period (1167 and 1174). In the latter siege a widow named Stamura showed great bravery, setting light to the war engines under a shower of darts and stones, and apparently escaping unhurt. Ancona ceased to have relations with Constantinople after the signing of the peace of Constance between Pope and Emperor. It was the capital of the March and the residence of the Marquis. In the defeat of Osimo (1245) it lost the carroccio and its conductor, Marcellino Peto, and, remembering this, it took up the Angevin cause when the opportunity came. Sometimes Guelf, and sometimes Ghibelline, it flourished until 1532, when it finally became part of the States of the Church under Clement VII. At this time the governor, Bernardino della Barba repressed a slight rising with a large force, entered the public palace, and threw from the windows all the documents, ordering them to be burnt, an act of barbarism parallelled by that committed at Messina by the Spanish viceroy, Don Francesco Bonavides in 1678. The next governor founded the fortress, beheaded five principal citizens and exiled sixty-four, after which quiet reigned, and the city was described as *civitas fidei!* The French Revolution brought another siege, and, though it returned to the Pope and was made a free port, it suffered yet two others, one in 1849, when Zambeccari defended it for eighteen days against the Austrian General Wimpffen, and the other in 1860, when Lamoricière and the pontifical guards were assailed by the Italians under Fanti and Persano. F. H. J.

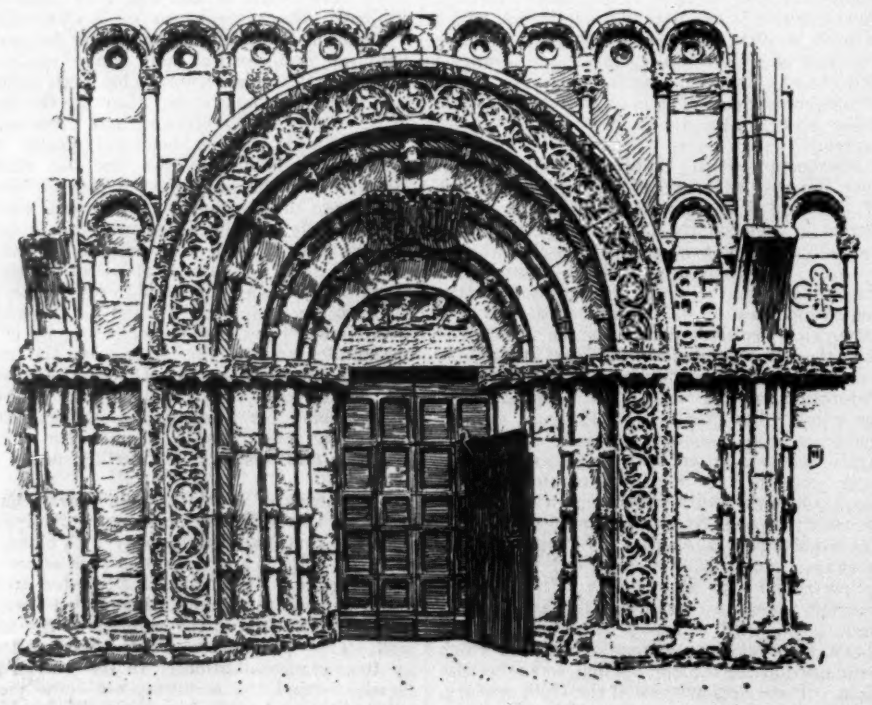


Fig. 3. West Door, S. Maria della Piazza, Ancona.

MAGAZINES AND REVIEWS.

In the *Art Journal*, in an article on "The Art Annals of Liverpool," we are glad to see tardy justice done to that remarkable animal painter William Huggins, who went through life hardly known or appreciated in his native city or elsewhere. As the writer of the article (Mr. E. Rimbault Dibdin) truly says, "he was incomparable as a draughtsman; his colour at his best was exquisite, and Landseer never drew a lion as he did." We remember one picture, a coloured crayon study of a lion walking away, his great head and mane turned round to the left, which in action and drawing was a perfect masterpiece. But Huggins seldom painted large and important oil-pictures, and that was probably one reason why he remained comparatively unknown, while such a far inferior and comparatively commonplace animal painter as Ansdell imposed himself on public notice by the large size of his canvases. An article signed "E.," on the work of Mr. Lionel Smythe, we are in entire sympathy with, and the selection of illustrations is good and very representative of the work of this poetic and suggestive artist.

The *Magazine of Art* contains an article on a Belgian artist unknown to us, Herr Leempoels, who appears to be a painter with a certain original walk in art, in the creation of what may be called symbolic pictures—groups representing abstract ideas, such as "Hymn to a Family," "Friendship," etc. An article on "The present school of decoration in Germany" is very favourable in tone, but then the examples selected are also far too favourable to be regarded as really representative, by those who are acquainted with the eccentricities of furniture design constantly to be seen in German illustrated art publications. In an article on "Sculpture at the Royal Academy," the Editor observes quite truly, while doing justice to the great ability displayed in this year's sculpture, that the Academy has no space in which to illustrate adequately the real merit of contemporary British sculpture. Why Mr. Gilbert's grotesque head called "The Mother of the Ninth Symphony" should be singled out for special praise along with Watts's "Physical Energy," we do not understand. The odd and grotesque are out of place in sculpture, and the "Ninth Symphony" should have suggested something noble rather than grotesque.

The *Berliner-Architekturwelt* is largely occupied with illustrations of the architectural designs in the Berlin Art Exhibition of this year. Among these there are the usual designs for mysterious conceptions only destined to be carried out on paper—a "National Hall" and two "Grab-Mäler"; but there are also designs of a more reasonable character. Among these Herr Kühn's "Ladies Seminary for Honnef," a domestic Gothic building with a stone ground story and white rough-cast over, is very pleasing; so, in another and rather ostentatiously simple style, is MM. Jansen and Müller's "Girls' School at Essen," but we should imagine that it was inadequately lighted. Herr Schwecklen's design for the tower approach to a steel bridge fails, as so many structures of this kind do, for lack of simplicity, though it is not so weak and florid as our Tower Bridge structures. The new architectural gallery of the exhibition, designed by Herr Schweitzer, of which an interior view is given, is a really artistic piece of work, founded on Greek forms, but with some novel treatment in detail. The number is prefaced by a critical article on the art exhibition, written by Herr Swarzenski, of which the following is a summary. He commences by remarking that in a collection of 2,171 exhibits there can be but a small percentage of important or interesting works. In this case there is a predominance of the class of work that displays real talent and earnest endeavour, but has not sufficient greatness to rise above mediocrity. The exhibits are representative of all branches of creative art, although paintings predominate. Among these the most important are undoubtedly those by the late Franz von Lenbach, and by Ludwig Dill, whose works are classed together; the former is represented by several of his finest portraits, and the latter exhibits characteristic landscapes in soft brown, green, and grey tones. Oscar Frenzel too is distinguished by his understanding of German landscape, which he interprets best under the warm golden light of sunset. Of subject pictures there are several worthy of note, such as those of Dettmann, O. H. Engel, Müller, Schoenefeld, and a small pastel entitled "Adam," by Stassen. Among the sculptors Berlin is most widely represented, and besides well-known artists, such as Manzel, Schauss, Hosaeus, several younger sculptors are noteworthy. Such are Jaeckle and Schmarza, Ernst Müller, Helene Quitmann, and C. Starck. The selection of pictures exhibited by foreigners seems a strange one. Belgium is represented by Courtaens; three Dutch artists have gained admittance, Gari Melchers, H. M. Mesdag, and Mesdag van Honten, and there is also a collection of Spanish works by Sorolla y Bastida. Besides these there is a variety of Hungarian paintings, mostly of small interest or merit. The pencil studies and illustrations in black and white show much that is good and praiseworthy, but the most satisfactory exhibits are to be found in the new architectural gallery. In general, the tendency of the architectural exhibits is towards the ideal, or merely the external aspects, and the fuller details of ground-plans, elevations, or models have been somewhat overlooked. This, however, thinks Herr Swarzenski, is in keeping with the character of the exhibition, and is therefore to be commended; a conclusion, in which, however, we can hardly concur.

The *Architectural Record* (New York) contains the continuation of Mr. de Kay's illustrated article on "Bronze and Iron Decorations," commenced in the June number. The illustrations are of very varied merit. Some of them, such as the doors of the Maryland State Building, the railing for the Corn Exchange bank, the door grille for a Newport house, show what good work of this kind is being done in America; and the two playfully-designed fire-dogs by Mr. Linder, with little nude boys grouped with them, are very original and effective. Other designs show a total want of feeling for the material; the metallic window frames on pages 42-43 look exactly like wood carving, and would be taken for it but for the title, and the spray of "hammered iron work" by the Remppis Co. (page 41) is a piece of naturalism in iron of the worst type. No criticism on the illustrations seems to be attempted in the article. A paper on "What is Civic Art," by Mr. Herbert Croly, is partly a reply to one Mr. C. Mulford Robinson, who seems to have published a book or pamphlet on the subject, and to have maintained the very erroneous idea that civic art is something produced for the glorifying of the city or State and not for the sake of art. In that case, it will be likely to be more civic than artistic. Mr. Croly's remarks on the present state of American public art are judicious and interesting:—

"Whether an American New York can be obtained only at the price of good looks remains to be seen; but at least we should not fall into

the naïve error of seeking to make either a consummately beautiful or a consummately American city merely by the magic of intelligent effort. A great city cannot be forced to bloom beautiful. Its comeliness must wait on the concurrence of a number of rare and happy conditions. The art which is capable of making a consummately beautiful city must possess more than intelligence, good taste, and complete information. It must be a mature art, guided by authentic conventions, fertile in great designers, possessed for a passion for propriety and beauty of form, and confirmed by genuine popular appreciation, in every respect the master of its resources. We have plenty of clever and well-informed architects, painters, and sculptors in this country and some few great ones, but it must be recognised that American art is mature only in spots, and that it should be in no hurry about attempting to rear a series of great municipal and national monuments. American art is not as yet guided by authentic conventions. Its methods are experimental."

It will be seen that Mr. Croly is a saner critic on American art than some of his countrymen.

The *Architektonische Rundschau* gives for its first illustration a really charming design, the Rathaus for Ober-Scheneweide, by MM. Altgelt and Schweitzer. It shows a façade in a free classic style, but with a good deal of mediæval feeling about it, part of the charm of which consists in the unexpected manner in which a generally symmetrical treatment is slightly varied in detail; the towers at each extremity of the front, for instance, are identical up to the balustrade, but the lanterns on them are of different height and design. The graceful arcaded loggia in the centre of the upper story contrasts admirably with the plain treatment of the rest of the openings. Altogether a piece of architecture at once refined and picturesque. There is nothing else of special interest in the illustrations, but the text includes an article on the public fountains of Constantinople ("Die Brunnen Konstantinopels") by Herr Freiber von Tettau.

In the July issue of *Technics* several articles will be found which are of interest to our readers. Mr. Joseph Horner deals with "Modern Methods of Steel Casting," illustrating some strong and weak forms of commonly recurring castings, pointing out the differences necessary in the design of a frame for cast-iron and steel respectively, and giving other hints that should be of service to the draughtsman. Mr. Harold Busbridge, in a short contribution on "The Shrinkage and Warping of Timber," presents some very practical notes with eleven drawings, making clear the characteristics of different varieties of timber and the effects following different methods of cutting logs into planks. "A New Process for the Protection of Iron and Steel from Corrosion" is described by Mr. Sherard Cowper-Coles. One point of particular interest about the new process is that the metal can be coated with a thin even deposit of zinc at a temperature many hundred degrees below the melting point of zinc. The first step is to free the iron from scale and oxide by dipping in an acid solution or by the use of a sand blast; the next is to place the objects in a chamber charged with zinc dust, which is heated for a few hours and allowed to cool. On opening the chamber the articles are found to be coated with a fine homogeneous covering of zinc, the thickness depending on the temperature and the length of exposure. Mr. E. Flander Etchells, in Part VII. of the "Theory of Structural Design," considers moments and the nature of units in a manner that should be helpful to those desiring a thorough grasp of the inner meaning and true import of constants employed by the structural engineer. In addition to the foregoing, mention should be made of the following articles—"The Radiation and Emanation of Radium," by Professor Rutherford; "Limitations to the Use of Storage Batteries," by Mr. H. M. Hobarti and "Electric Traction," by Mr. R. Borlase Matthews. The useful character of this magazine is well maintained in the present number.

In *Public Works*, Sir W. Willcocks contributes an article on the interesting subject of "Egyptian Weirs or Regulators," including both the old and the new Nile barrages, with numerous sections. An article by Mr. J. F. J. Reynolds on "The improvement of Traffic facilities in London," fills us with dread lest any municipal government should be tempted to carry out these suggestions. We are shown sections of "a new Thames Embankment," double-decked, with an upper roadway for motor omnibuses and other traffic carried on walls and steel supports above the present roadway, and a "typical crossing of an existing street," with two stories of ugly girder bridges one over the other. The effect of such a system would be to choke all our street views and to render all fine architectural effect in London impossible. Does it ever occur to those who suggest this horrible disfigurement of our cities that there may be even more important considerations in a capital city than getting across a street in the easiest and quickest manner, and that a little crowding and delay may be a lesser evil than disfiguring the whole architectural aspect of a city?

This month's issue of the *Century* is worth getting by architects, for the sake of the description and illustrations of "The New West Point," the great reconstruction of the United States military Academy which is to be carried out from the designs of Messrs. Cram, Goodhue, and Ferguson, of Boston, the architects whose plans were selected in competition. This is really a fine and a very novel architectural conception; the treatment of a military school as a kind of great fortress, with something of mediæval reminiscence about it, though not a mere imitation. The competitors were instructed to keep their designs in sympathy with the existing buildings of the Academy, the most important and distinctive of which had been designed in the Gothic style; the point is exceedingly well put in the following quotation from the official Report on the subject:

"It is not desirable that any scheme should attempt to sweep the field clean and destroy architectural associations made honourable by generations of great men, while it is of the highest importance to preserve intact the structural sentiment which gives character and individuality to the Academy. It would be a great pity to make such a competition the subject of an architectural thesis in which the heritage of the past plays no part."

In the *National Review* Mrs. Ady writes a short memorial article on Giovanni Costa, bringing out very well his character both as man and artist. It is a great pity that this kind of appreciation of so remarkable an artist should have only have become general in this country after his death. Mrs. Ady dwells with emphasis on Costa's close and devoted study of nature and natural fact. "The Italy that he paints is not the conventional Italy of Claude and Poussin." Quite true. But, on the other hand, can it be said that Costa achieved as broad and elevated a style as that of Claude and Poussin at their best? There are more ways than one of looking at this question of natural fact in painting.

In *Longman's Magazine* Mr. C. L. Eastlake writes an article on what he characterises as "The Misrule of Imperial London," in which he draws attention to a great many inconveniences which are tolerated in London through mere want of efficient policing. As he says, "one of the most aggravating sources of offence to law-abiding citizens is ineffective legislation"; and he gives a good many examples of this, the truth of which will be but too readily recognised by every Londoner. Other inconveniences arise from a total want of commonsense in providing for obvious duties which are left to chance and charity. The sweeping of the crossings is a flagrant example:

"Whose business is it to keep them swept? The duty is at present undertaken by an army of irresponsible men and boys who, picketed at innumerable corners all over the town, stand holding their brooms and touching their hats to any pedestrian who is likely to spare a 'copper.' In wet and muddy weather they certainly render some service, and no conscientious foot-passenger likes to ignore it if he has a penny at hand. Now, supposing such a person in the course of a stroll goes over fifteen crossings and comes the same way back, his walk, if he is a liberal man, will have cost him half a crown! Of course no one actually incurs this expense. But as a matter of principle one crossing-sweeper deserves his fee as well as another. If they are paid at all, they ought to be paid uniformly. Sometimes an unsophisticated ratepayer asks why the parochial or metropolitan borough authorities who are supposed to keep our roadways clean do not extend that duty to street-crossings. The taxes levied for these and kindred purposes have increased enormously of late years, but if they do not suffice for their object, few householders would object to an additional charge of a few shillings if it would relieve them from an irregular and troublesome demand for daily gratuities."

This absurdity of the begging crossing-sweeper is a perfect disgrace to London. For our own part, we steadily refuse ever to give anything to a crossing-sweeper, because it is fostering a ridiculous system. We recommend Mr. Eastlake's article to the attention of the London County Council and the City authorities.

The *Gentleman's Magazine* contains the rather surprising incident of a long and detailed architectural criticism of the Westminster Cathedral, signed "F."; from internal evidence presumably not the work of an architect, or the Byzantine capitals of the chapels would not have been described as "barbaric"; nor would the tower have been criticised as "chimney-like" without any reference to the refining effect of its entasis. It is odd that, in describing the columns of the chapels, the writer is enthusiastic about entasis, and the life it gives to "the inert and almost dead column"; yet he never notices the same effect in the tower. There is, however, reason in some of "F.'s" criticisms, especially in his remark as to the effect of brickwork on a great scale lying very largely in large and unbroken masses; and he does full justice to the interior of the building. It is something to find that an editor of a general magazine will admit such an article at all.

Knowledge contains an article by Mr. Walter Maunder on the interesting subject of "The Solar atmosphere at different levels."

CEMENT BRICKS.

On Monday last a demonstration was given, at the works of Messrs. J. Hebblethwaite and Sons, Stanhope-street, N.W., of a machine for the manufacture of bricks from cement mortar. Both the apparatus and the method are particularly simple. The machine consists of an iron frame provided at one end with a rectangular box, divided into two compartments, the bottom of each being formed by a loose board, supported by a frame attached to the upper end of a mechanical movement, through which vertical motion is imparted to the board. Thus the bottom of each compartment can be raised to the level of the top edge. One side of the rectangular box, as well as the diaphragm parallel thereto, is slotted vertically in such manner as to permit the entrance of parallel knives, which are moved horizontally by means of a lever, and in their final position they divide the two compartments of the rectangular box into ten compartments, each of the size of an ordinary brick. The process of brickmaking may be thus briefly described:—(1) A supply of mortar, in the proportion of one part Portland cement to three parts sand, is mixed near the machine; (2) the compartments of the rectangular box are filled with mortar, which is well rammed in so that the corners may be thoroughly filled; (3) the horizontally moving knives are drawn into their final position, cutting the mass of mortar into the form of ten bricks; (4) the knives are drawn back to their original position; and (5) the lever raising the movable bottoms of the compartments is operated, and the bricks are thereby brought out of the mould and can be carried away to await setting. As the result of our examinations, we are in a position to say that any ordinary labourer could make a large number of bricks daily after very little practice, and at a cost per thousand that would compare favourably with good stocks. It is not quite clear, however, what advantage is to be derived from the application of cement in the form of bricks. If the object be to build walls, it would be far more economical to use concrete, which is much cheaper than cement mortar, and can be filled into moulds with far less labour than that involved in the laying of separate bricks in courses. In some special classes of work, bricks may be preferable, and if our readers think them essential, they will probably find the apparatus here described to be both practicable and serviceable.

THE POWELL WOOD-PROCESS SYNDICATE.—This company, who are the patentees of the method of treating timber known as the Powell or Sugar Process, have taken premises at Carpenter's-road, Stratford, E., where they are laying down the necessary plant to work the system. The plant consists of tanks to contain the solutions, a cylinder in which the timber is treated, and drying-rooms to which the timber is taken after treatment. The plan of drying adopted is the hot-air system, with circulating fans. Among the advantages claimed by the patentees for their process are that it enables timber to be seasoned rapidly without splitting or cracking it, and affords resistance to dry rot, and other forms of decay.

THE ARCHITECTURAL ASSOCIATION SUMMER VISITS:

IV.—WINCHESTER.

No place is more closely associated with the history of England of all ages, or more instructive in the evolution of British building styles, than the city of Winchester. Little wonder is it, therefore, that the visit of the Architectural Association to this ancient borough on Saturday, the 9th inst., should have provided endless sources of interest to students in architecture.

Under the direction of Mr. N. C. H. Nisbett, who had carefully prepared notes on a long programme, a tour of the principal buildings was made. Sites of early British camps, evidences of the Roman occupation, and various incidents of pre-conquest times were pointed out.

The West gate, probably built by Henry III., stands at about the site of the entrance to the Roman city. The building is now utilised as a small museum and showplace, containing relics of civic interest. The County Hall, which was next visited, is a large XIIIth century building with two arcades, and appears to be a later part of the Norman Castle, of which little evidence remains. The piers of the arcades have clustered Purbeck marble shafts, and are specially interesting in rising from circular bases, and terminating in the circular abacuses of the caps. Remains of the dais are still to be seen, and behind it, an unusual detail is the small window in the end wall ensuring supervision and attendance. It is a matter of regret that certain structural alterations were made in the XIXth century, chiefly in the transposing of a door and window for the supposed convenience of the assizes, which are held at long intervals. The stone vaulted subterranean sally port is perhaps unique. It is in fine preservation, and although approached from private ground, it is rumoured that an opportunity will be taken of acquiring it for public service.

The Guildhall, with its overhanging clock-case and supports, together with the city cross, built about 1430, were pointed out. The prebendal brick houses and other dwellings in the close were much admired, and the new borough museum was brought to the attention of the party of twenty-eight members. This building is a stone and flint built structure in a mediæval design quite unsuited to a XXth century museum, but it transpired that the corporation desired that the building should harmonise with the Cathedral. Such a suggestion reflects a blind ignorance of the lessons of archæology.

The famous cathedral (which we illustrated and described in our Cathedral series on October 1, 1892) needs no description here. Mr. Colson, the architect to the fabric, gave an interesting account of the history of the building, and of the re-roofing of the nave in recent years. It is remarkable that a huge cathedral as large as the present church should have existed in Norman times. The choir screen is an oak fitting inserted by Sir Gilbert Scott in place of a screen designed by Inigo Jones. The latter is said to be still preserved, and it is to be hoped that great care will be taken of it, and the question of re-erection kept in mind.

Wolvesley Castle is one of the principal historic ruins of Winchester, standing upon the site of an important Roman house, and becoming later the residence of Saxon kings. Here is supposed to be the apartment in which Egbert held council in the IXth century, and declared that this country should be called England. The old walls show a careful and general re-use of old materials. A large Renaissance house, dating from 1607, now stands upon part of the site.

The ancient and well-known college was keenly inspected and appreciated. The development of the institution was explained by plans and prints. The two courts with gate towers are splendid examples of mediæval educational establishments, and the chapel is unusually high for its length; the latter has suffered very considerably in the matter of fittings and decoration inserted in the XIXth century. The large schoolroom, built in 1683, is almost certainly the work of Wren, although no documentary evidence exists. The cloisters are simple yet interesting, but the most unusual feature is the Fromond's chantry, placed in the middle of the cloister-garth. Of modern works, Mr. Champneys' "Memorial Buildings" are the best, although leaving much to be desired. A South African War memorial is seen in a new gateway designed by Mr. F. L. Pearson. The new science school, however, is a most unfortunate piece of design, from all points of view. The façades have many features which are utterly meaningless; perhaps the worst of these is the carved stone tympanum in the wooden pediment and cornice, stained and varnished!

The historic Hospital of St. Cross was finally visited. No description is here needed, but it may be of interest to recall that the institution was founded in 1136 for thirteen poor brethren. The present lodgings were built in the XVth century, and it is supposed that the original dwellings were located on the south side of the church. The latter is a large edifice, and very interesting as a "transition" Norman work. It is to be deplored that the interior of the chancel should have been so ruthlessly spoiled by virulent colour decoration designed by the late Mr. Butterfield. The scheme consists of a variety of coarse patterns having no relation to the unique architecture of the chancel, and the result is nothing short of barbaric. An inspection of the kitchen, with its ancient utensils, and of the hall, terminated a splendid day's instructive sight-seeing.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. J. Williams Benn, M.P., Chairman, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Camberwell Borough Council 1,394*l.* for housing purposes, and 1,750*l.* for purchase of land for an open space; Poplar Borough Council 20,000*l.* for electric light installation, and 740*l.* for erection of a wall, etc.; Wandsworth Borough Council 5,500*l.* for street works, etc. Sanction was also given to the borrowing by Shoreditch Borough Council of 9,958*l.* for electric light installation and meters, and Westminster City Council of 6,953*l.* for sewer reconstruction works.

Schools.—The Education Committee recommended and it was agreed that application be made to the Board of Education for approval to the finished plans of the undermentioned new schools, enlargements, etc.:—

Electoral Division.	School.	Contractor and amount of Tender.	Work included in plans.
New Schools:			
Wandsworth	Dunt's-hill	Messrs. Holliday & Greenwood, Limited, £23,337.	Two-story building for senior mixed and junior mixed, with drawing class-room and science room, and separate one-story building for infants. Total accommodation, 1,140.
Woolwich	Timbercroft-road	Messrs. G. E. Wallis & Sons, Limited, £19,556.	Three separate one-story buildings for senior mixed, junior mixed, and infants. Total accommodation, 980. (Planned for future enlargement by an additional class-room for each department).
Enlargements:			
Woolwich	Elizabeth-street..	Messrs. E. P. Bulled & Co., £3,299.	Enlarging the school by 150 places; also erecting combined cookery and laundry centre, drawing class-room, and science room.
Central Hackney ..	Sigdon-road	Messrs. J. Chessum & Sons, £1,686 15s. 8d.	Enlarging the school by 130 places, and extending boys' covered playground on roof.
Centres, etc.:			
Wandsworth	Rosendale-road ..	Messrs. J. & C. Bowyer, £3,297.	School for 60 mentally defective children.
East Islington	Ambler-road	Messrs. J. Willmott & Sons, £3,095.	School for 60 mentally defective children.
Wandsworth	Oak-lodge	Mr. E. Triggs, £4,700 and £500 for further works.	Alterations to premises to adapt building for thirty resident and 10 non-resident elder deaf girls; and two new buildings in rear of site.

Avery-hill Mansion.—Sir William Collins, the Chairman of the Education Committee, stated, with reference to a proposal that the Avery-hill Mansion should be utilised as a day training college, that communications had taken place between his committee and the Parks Committee as to the practicability of the suggestion, and he understood that the Parks Committee regarded the proposal favourably. The matter was, however, still under consideration.

Fleet-street Widening.—Upon the recommendation of the Improvements Committee it was agreed to contribute 1,107*l.*, one-half of the net cost of the widening of Fleet-street at No. 71, to 60 ft., proposed to be carried out by the City Corporation.

The Lamp Standards on Waterloo-bridge.—In answer to Mr. Horniman, Mr. Straus (Chairman of the Bridges Committee) said that his committee were considering the reference made to them with regard to the removal of the lamp standards from Waterloo-bridge and had decided to consult Mr. Frampton as to whether these standards were still fit to be used for electric lighting purposes. He was glad to be able to contradict the statement that any of these standards were broken. Out of the eighteen, sixteen were perfectly sound, and the others were only slightly damaged, and could be easily repaired. The standards were not of bronze, but were cast-iron, and a very good example of old cast-iron. They were placed on the bridge in 1817.

Tramways.—The report of the Highways Committee, giving the account of receipts and expenditure on the Council's tramways for the year ending March 31, 1904, was submitted.

Mr. Gaskell called attention to the difference between the estimates a year ago and the actual facts now before them. A year ago it was estimated that the net receipts would be 126,770*l.* on the electric system, and 20,000*l.* on the horse system, a total of 146,939*l.* The actual net receipts, however, were 94,452*l.*, or a deficiency of 52,487*l.* Seeing that some time ago the chairman of the Committees told them that receipts from the electric system would soon be 1,000,000*l.* a year, this was very disappointing.

Mr. Percy Harris considered there was justification for calling attention to the great discrepancies in the estimates.

Mr. A. Baker (Chairman of the Highways Committee) claimed that the Council had every reason to be satisfied with the results of the tramways so far, seeing the delays and disadvantages which had been experienced in connexion with the reconstruction work. As a matter of fact, they anticipated a loss of 15,000*l.*, on the Southern system, but they had reduced the loss to 8,000*l.* They had to pay interest charges and sinking fund for eighteen months before a tramcar was run, which no tramway company would have to do, and had a private company been operating the lines they would, on the results of the year, have declared a dividend of 5 per cent. When they generated their own electricity they would save half the present cost. With regard to the conduit system, he believed that it was the best system and the cheapest in the end for them to adopt.

The report was adopted.

Motor-car Registrations.—The Highways Committee reported that, in accordance with the provisions of the Motor-car Acts, the Clerk of the Council had, from June 18 to July 2, registered 149 motor-cars and 91 motor-cycles, thus making the total number of cars and cycles registered up to the last-named date 3,768 and 2,697 respectively.

Working Class Dwellings.—Mr. Bruce submitted a return from the Housing of the Working Classes Committee, from which it appears that the total gross income for the year from all the dwellings amounted to 89,873*l.* 1s. 7d., and of this a sum of 40,269*l.* 3s. 10d., or 44.81 per cent., was required for outgoings during the year, as compared with 32,948*l.* 0s. 5d., or 44·45 per cent. during the preceding year. In addition

to this the sum of 46,832*l.* 2s. 8d., or 52·11 per cent., was required for interest and sinking fund charges, as against 35,269*l.* 6s. 7d., or 47·58 per cent., during the year 1902-3. Upon reviewing the operations of the Council as a whole since the opening of the first block of dwellings in April, 1894, it is found that there is a balance in hand amounting to 12,050*l.* 18s. 7d. after taking into account a net contribution from rates of 22,001*l.* 18s. 10d. The net charge on the rates is entirely due to the debt charges in respect of undeveloped estates, for although amounts have been raised in the rate in respect of dwellings, there is no deficiency on the income account of the dwellings as a whole, as a result of the Council deciding itself to erect and manage them. Such a result may, the committee think, be regarded as satisfactory. The total expenditure on capital account on all the dwellings and estates up to March 31, 1904, amounted to 1,731,904*l.* 3s. 3d., which sum represents the actual payments made up to that date, and does not include liabilities under contracts for buildings in course of erection. The dwellings mentioned in the accounts comprise 3,996 tenements, 658 cottages, and 1,147 cubicles containing accommodation for 24,467 persons.

The return was received.

The Criterion Theatre.—Sir Algernon West asked the chairman of the Theatres Committee whether his attention had been drawn to a statement by the chairman of Spiers and Pond (Ltd.), to the effect that his company were unable to pay a larger dividend in consequence of the requirements made upon them by the County Council.

Mr. Yates, the Chairman of the Committee, said it was true that in 1899 certain requirements were made on the managers of the Criterion Theatre, and these were carried out in 1903. They were made on the authority of the Lord Chamberlain, and were the minimum that could be asked for, in order to secure that this theatre should be rendered safe for the public. The whole of the negotiations in connexion with this matter took place with Sir Charles Wyndham, and the committee had had nothing to do with Spiers and Pond (Limited).

London Traffic.—Mr. Greenwood moved, in pursuance of notice of motion: "That, having regard to the necessity for providing additional traffic facilities in London and to the importance of linking up the Council's northern and Southern tramway systems, it be referred to the Improvements Committee to consult the Highways and Bridges Committees and to report at an early date—(1) whether the South-Eastern and Chatham and Dover Railway Company are contemplating the rebuilding of Charing-cross Station and the widening of Hungerford-bridge; (2) whether the Council can be advised to take the opportunity of submitting to Parliament a scheme for the acquisition by the Council of Charing-cross Station and Hungerford-bridge, providing the railway company with a site for a new terminus station on the Waterloo side of the river in place of the present terminus at Charing-cross, and erecting for general traffic a new road-bridge of sufficient width and capacity to take a double line of tramway in the centre of the roadways, so that the Council's northern and southern tramways from Aldwych to Waterloo could be linked together; (3) what saving of capital moneys might be anticipated in carrying out such a scheme by the avoidance of the rebuilding of Lambeth-bridge and of the widening of Waterloo-bridge, and in other ways, and what would be the general result to London of throwing open such an exceptionally fine access between the northern and southern part of the county; (4) what would be the estimated gross cost of each principal portion of the scheme, the estimated recoupment by disposal of the surplus land, and the estimated net cost."

Mr. Cornwall seconded the motion, which was supported by Mr. Straus and others and adopted.

The Council soon after adjourned.

THE BRITISH MUSEUM LIONS.—In the House of Commons recently, replying to Mr. MacNeill, who asked what had become of the bronze lions which formerly were along the line of railings in front of the British Museum, and which were removed to widen the footway, Lord Balcarres said:—Twelve lions were removed to St. Paul's Cathedral, with the concurrence of the Trustees of the British Museum; the remainder are at the Museum, in charge of the Trustees.

APPLICATIONS UNDER THE 1894 BUILDING ACT.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Paddington, South.—Buildings on the south side of Moscow-road, Bayswater, eastward of Bark-place (Messrs. Metcalf and Greig).—Consent.

Camberwell, North.—Houses for the working class on the north and south sides of Beckett-street and east side of Toulon-street, Wyndham-road, Camberwell (Mr. W. Oxtoby for the Metropolitan Borough of Camberwell).—Consent.

Width of Way, Lines of Frontage and Construction.

St. Pancras, South.—Two iron gangways at the third and fourth floors, and alterations to an existing gangway at the second floor of premises on the north and south sides of Beaumont-place, St. Pancras (Messrs. Maple and Co., Ltd.).—Consent.

Battersea.—Coal-conveying plant across Lombard-road, York-road, Battersea (Mr. W. M. Wilkins for the Council of the Metropolitan Borough of Battersea).—Consent.

Formation of Streets.

Lewisham.—That an order be issued to Mr. A. H. Kersey, sanctioning the formation or laying out of a new street for carriage traffic to lead from Gabriel-street to Grierson-road, Lewisham.—Agreed.

Wandsworth.†—That an order be issued to Mr. J. C. Radford refusing to sanction the formation or laying out for carriage traffic of new streets on a site abutting upon the west side of Gwendolen-avenue and the south side of Hazlewell-road, Putney (for Lord Westbury).—Agreed.

Islington, West.—A deviation from the plans sanctioned for the formation or laying out of a new street to lead out of the east side of Caledonian-road, Islington, to the north-eastern side of Stock Orchard-crescent, so far as relates to an alteration in the gradient of such street (the Loraine Property Company, Ltd.).—Refused.

Space at Rear.

Chelsea.—A modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a building upon a site abutting upon the western side of Sloane-street and northern side of Basil-street, Chelsea (Mr. F. S. Chesterton for Mr. Cobb).—Consent.

Buildings for the Supply of Electricity.

Marylebone, West.—A generating-station on a site abutting upon Richmond-street and Salisbury-street, St. Marylebone (Mr. J. Wilson for Metropolitan Borough Council).—Consent.

The recommendation marked † is contrary to the views of the local authority.

ARCHITECTURAL SOCIETIES.

MANCHESTER SOCIETY OF ARCHITECTS.—Last Saturday this Society visited Wakefield, and spent some time in going through Messrs. Gibson and Russell's council offices for the West Riding County Council. The entrance hall, with its marble floor and walls and plaster domical ceiling, the council chamber (seating 120 members), and all the principal rooms were found to be of great interest, and worthy of more thorough study than time permitted. Afterwards the XIVth century chantry on the bridge was visited. Externally this must have been of wonderful richness and beauty. Unfortunately the stone has weathered so badly that little remains but a suggestion of the original effect in the part which escaped the restorer's hand early in the last century. Internally there is still some most interesting detail in a very rich canopy and niche, showing most delicate workmanship. The roof is also of interest.

NEW STAND, GOODWOOD.—The erection of the new grand stand at Goodwood racecourse is now in progress. The structure will be 258 ft. long and 50 ft. high. Under one roof will be arranged the royal box, the house stand, and accommodation for members, Tattersall's, and general visitors. Below a subterranean passage, 10 ft. in width, leads from the paddock to the lawn, and both these enclosures have been enlarged. The stand and lawn together will afford accommodation for 10,000 visitors, and a separate building has been erected for the Press, telegraphists, and officials. The work has been carried out, from the designs of Mr. A. J. Henderson, architect, by Mr. Wallis, contractor.

ENGINEERING SOCIETIES.

SOCIETY OF ENGINEERS.—A highly interesting visit was made by the President—Mr. D. B. Butler—and members of the Society of Engineers on the 29th ult. to the Portland Cement Works of Messrs. Martin, Earle, and Co., at Wickham, Rochester, where they witnessed the manufacture and testing of cement made by the ordinary method and by the new Rotary Kiln System. The works, which are now about a mile in length, are situate on the River Medway, and are said to be the largest Portland cement works in Europe. They were acquired by the present company in 1891, when the plant only consisted of a few kilns of the chamber type, and a pair of mills for grinding the clinker, power being supplied by a 250-h.p. beam engine. The works were enlarged from time to time until in 1899 they were equal to an output of 3,000 tons per week. About that date, becoming aware of the remarkable results obtained in the United States with rotary cement kilns, the firm investigated the question and erected a full-size experimental kiln on the American system, with which they made a long series of exhaustive experiments. Numerous modifications, alterations, and improvements were introduced, until, after about two years of uninterrupted experiment, Messrs. Martin, Earle, and Co. succeeded in evolving a perfect rotary kiln, capable of dealing successfully with the Medway raw materials—chalk and clay—for the manufacture of Portland cement. The rotary continuous kiln was found to offer peculiar facilities for regulating the burning during the process of clinkering, whereas with the intermittent chamber kiln no such correction is possible. The new system also showed itself superior to the old, both as regards the quality of the product and the cost of production. The rotary kiln house is a large brick building in which the sixteen kilns are arranged in line. The kilns are provided with slurry agitators and coal-firing apparatus. Some are also fitted with apparatus for drying sufficient fuel—which is finely powdered coal—for the entire battery. The body of each kiln is 90 ft. in length, constructed of mild steel, and lined with basic fire-brick. The kilns are set on the incline, and rotate at such a speed as ensures a well-burned clinker. The remarkably large output of 200 tons of clinker per week can be obtained from each kiln, maintaining an average of 25 cwt. per actual running hour of the kiln. The clinker discharged from the kilns is transferred to horizontal revolving coolers, from whence it is transmitted by conveyors to the crushers, and is afterwards elevated to cooling towers. The dry-mill house is situate behind the cooling towers, and the milling is there done by "Griffin" mills arranged in separate batteries of six mills each, which receive the clinker from overhead hoppers through shutes. The finished cement is conveyed from the dry-mill house by ordinary screw conveyors to the warehouses, where a number of customers have stores specially reserved for their own use. The men employed in connexion with the rotary kilns are approximately two-thirds fewer than required to obtain the same output from the old-fashioned kilns. Three sets of engines are employed to drive the wet plant, the dry-mill and the coal-mill plants respectively, all of which are identical in size and type. Each engine is of the triple expansion marine type, designed for mill work, with rope drives, and working with surface condensers and centrifugal circulating pumps. High-pressure steam is supplied to the wet plant from a battery of three Lancashire boilers, and to the other plants from a battery of five similar boilers, all fitted with Galloway tubes. The rotary kilns are driven by two horizontal engines with rope-drives, and take steam from three marine boilers. The principal buildings on the works, as well as the chalk quarries, are lighted by electricity. Powerful arc lamps are employed, and the current is supplied from a generating station on the works. A well-appointed laboratory is attached to the works, being equipped with every known scientific device for testing not only the raw materials and the finished cement, but also the exact proportion of mixtures of the raw materials at the various stages of manufacture. It is also fitted up for general research work.

THE JUNIOR INSTITUTION OF ENGINEERS.—Visits of this Institution were recently paid to the Chelsea Generating Station of the Under-

ground Electric Railways Company of London, Lots-road, Chelsea, and to the adjoining London County Council's Pumping Station. At the former the General Manager, Mr. J. R. Chapman, and the Resident Engineer, Mr. J. W. Towle, were present, and the visitors were enabled to make a complete examination of the work so far as it had advanced. The station will supply current for working the trains of the District Railway from Whitechapel to the various western and southern termini, Richmond, Wimbledon, Hounslow, Ealing, etc.; also the tube trains of the Baker-street and Waterloo Railway, the Great Northern, Piccadilly, and Brompton Railway, and the Charing-cross, Euston, and Hampstead Railway. The initial equipment of these lines will be about 150 trains. The station is designed for ten units of 5,500 kilowatts each, and one unit of 2,500 kilowatts. The output of the station will be three-phase, 33⅓ cycles, 11,000 volts, and will be distributed at this potential to twenty-three sub-stations. The site comprises 3·67 acres, and has a water frontage of 1,100 ft. The building is 453 ft. 6 in. long by 175 ft. wide, with an office annex 25 ft. by 81 ft. The steel frame of this building is entirely self-supporting, and contains 6,000 tons. The foundations extend from 30 ft. to 36 ft. below the ground level, and the loading of the clay does not exceed 4 tons per sq. ft. Attention may be called to the group system which has been followed throughout in both the mechanical and electrical installation—*i.e.*, eight boilers are grouped to one turbo-generator; these boilers have their own feed-pump, and the generator supplies its own section of bus-bar. No attempt is made to cross-connect the steam piping of the different groups, except at the east end of the building, where three groups are brought together in one small auxiliary header for supplying exciters, air compressers, house pump, etc. The station is designed for turbine engines, and illustrates the reduction in floor area which can be secured with this type of engine as against the reciprocating type.

At the L.C.C. pumping station Mr. H. M. Rounthwaite, Mechanical Engineer, Hon. Mem. J.I.E., received the members. There are here four horizontal gas engines, having each two 18½-in. cylinders, with 2-ft. stroke, both coupled to one crank (cylinders at opposite ends). On each crank shaft is a 7-ft. 6-in. rope pulley, grooved for eight 1¼-in. ropes, and these ropes lead down to similar pulleys of 6 ft. 5 in. diameter on the four centrifugal pumps. The pumps have suction and delivery pipes 23 in. diameter, and impellers of 66 in. diameter. These engines each indicate about 200 horse-power, at about 150 revolutions per minute, and the pumps each throw about 44 tons per minute. There are also four similar engines, with 18½-in. cylinders, 2-ft. 6-in. stroke, 7-ft. 6-in. rope pulleys on crank shafts, grooved for ten 1¼-in. ropes, and 10-ft. 4-in. similar pulleys on pumps. The pumps have 32-in. pipes and 72-in. impellers. These engines each indicate about 240 horse-power, at about 160 revolutions per minute, and the pumps each throw about 85 tons per minute. The 200-horse-power engines pump from the low-level sewer, and the other engines from the higher level Counties Creek Sewer. The whole plant works only during rainy weather, and pumps storm-water only into the Thames. The average number of hours per annum during which it will be required to run is estimated at sixty or seventy, though, of course, in exceptionally wet years it may be that the machinery will run as long as 100 hours.

BUILDERS' BENEVOLENT INSTITUTION.

THE fifty-seventh annual general meeting of this charity was held at the offices, 31 and 32, Bedford-street, Strand, W.C., on Wednesday.

In the absence of the President (Sir Weetman Pearson) through illness, the chair was taken by Mr. John T. Bolding.

The notice convening the meeting was taken as read, and the minutes of the last annual general meeting were read and confirmed. The following report was read and adopted:—

"The Committee has the pleasure to present its fifty-seventh annual report, and is glad to be able to state that, notwithstanding the continued depression in all branches of the building trade, the funds of the Institution, by careful and economical management, have been adequate for the present requirements. It is very desirable that the benefits of this charity should be extended, but this can only be done judiciously with an increased income. The Committee, therefore, appeals to subscribers, donors, and their friends for a continuance of their generous support.

"Since the last report two elections of pensioners have taken place—in November 1903 and May 1904—when ten men were added to the list. The Committee was fortunate enough on both occasions to be able to elect all the really eligible candidates, without having recourse to the costly and troublesome procedure of contested elections. Each application was minutely inquired into and reported upon before the final elections were made.

"There are now 33 men and 27 women enjoying pensions of 42*l.* and 30*l.* per annum respectively. Six pensioners (three men and three women) died during the course of the past year, burial allowances of 5*l.* being granted in cases where the relatives of the deceased needed assistance.

"The Committee acknowledges with the warmest gratitude all the President (Sir Weetman Pearson) has done for this charity. His personal generosity and wide influence have enabled the Committee to strengthen the financial position of the Institution and to anticipate a continuance of its good work.

"Death has dealt hardly by the Committee during the past twelve months, in taking away such valuable and respected members as the late Mr. E. Casselton, Mr. John Greenwood, Mr. B. E. Nightingale, and Mr. G. Nelson Watts.

"The Committee takes this opportunity to again thank the Trustees (Sir Arthur Charles Lucas, Bart., Mr. F. J. Dove, Mr. T. F. Rider, Mr. J. Howard Colls, Mr. T. Stirling, and Mr. J. T. Bolding); the Honorary Auditors (Mr. J. T. Bolding and Mr. R. J. Ward); and the dinner stewards for their kind and valuable services to the Institution.

"The Committee is glad to announce that Mr. William Downs has accepted the Presidency in succession to Sir Weetman Pearson.

"The annual dinner will be held in the Whitehall Rooms, Hotel Metropole, Charing Cross, on Thursday, the 24th November."

The audited accounts for the past year were received and adopted. The income was 124*l.* less than in the previous year, but 427*l.* more was spent on the pensioners, whilst the management expenses were under a sovereign different. Sixty-six and a half per cent. of total income was paid to pensioners in 1902-3; 88 per cent. of total income was paid to pensioners in 1903-4; 10 per cent. of total income was paid for management in 1902-3; 11 per cent. of total income was paid for management in 1903-4.

The following elections were made:—As President, Mr. William Downs; as Hon. Treasurer, Mr. J. Howard Colls (re-elected); as Trustees, Sir Arthur C. Lucas, Bart., and Messrs. F. J. Dove, T. F. Rider, J. Howard Colls, T. Stirling, and J. T. Bolding (all re-elected); as Committee, Messrs. J. T. Bolding, F. J. Dove, C. Bussell, G. J. Lough, Basil P. Ellis, and A. Ritchie (all of whom retired by rota but were re-elected); as Hon. Auditors, Mr. Robert J. Ward, F.S.I., and Mr. J. T. Bolding.

Votes of thanks were voted to the past President, Sir Weetman D. Pearson, Bart., M.P.; Vice-Presidents, Hon. Treasurer, Trustees, Executive Committee, and Hon. Auditors.

LIBRARY AND MUSEUM, MANSFIELD, NOTTINGHAMSHIRE.—The memorial stone has just been laid at Mansfield of a library, and the opening subsequently took place of the museum. Both institutions will occupy the same site, situated in a central position opposite the Victoria Hall, in Leeming-street, the library fronting the main road, whilst the museum is at the rear. Several months ago competitive designs for the new library were invited, and Mr. Sutton, of Messrs. Sutton and Gregory, Nottingham, was the successful architect. Mr. S. B. Frisby, of Mansfield, has secured the contract for the building. The Renaissance style is to be adopted, and the front elevation will be in Leeming-street. Mansfield stone will be entirely used for the front, and the side elevation will be of red-sand bricks, with stone dressings. The entrance will be in Leeming-street, and will lead into a hall, around which will be grouped the public rooms. Accommodation is provided on the ground floor for a lending library, 50 ft. by 18 ft. 3 in.; reading-room, with magazine and reference room screened off, 60 ft. by 26 ft. 6 in.; ladies' room, 26 ft. 6 in. by 15 ft. 3 in., and librarian's room and packing-room. The lighting will be by electricity, and the heating by hot water. The lending library will be immediately opposite the entrance. An iron staircase will give access to a store-room on the first floor, and there will be a small hoist for books. The total cost of the building will be about 3,000*l.* The museum structure is of wood, with a galvanised iron roof. The foundations are of concrete, with wood floors above, the lighting is by electricity, and the heating by hot-water pipes. The museum consists of the following rooms:—Main hall, 56 ft. by 35 ft.; lecture-room, 25 ft. square; insect-room (over lecture-room), 25 ft. by 25 ft.; six side rooms on the ground floor, each 30 ft. by 10 ft.; curator's room, 25 ft. by 12 ft. There is also in the main hall a small annexe, approached by stairs.

Illustrations.

JUMIÈGES ABBEY.

JUMIÈGES is a Benedictine abbey in the department of Seine Inferieure, near Rouen, which has been much visited and little studied; no precise account of it having been published till that of M.M. Guédy and Viatte, presented to the Salon of 1899 with plans and drawings. Yet it is the earliest of all the abbeys of Normandy, except Bernay, and must have had considerable influence on the two great churches on whose design the Norman architecture of England is mainly based, viz., Cérisy-la-Forêt and St. Etienne, Caen. It was founded in 638 or 654, was burnt by the Normans in 841, and it was not completely restored till about 941. Three years later it was again destroyed by Raoul Tourbe, Count of Rouen. The present church was commenced in 1040, and was consecrated in 1067 in the presence of William the Conqueror, who presented it with many English manors. It is possible that not only the choir, but the nave as we see it now and some part of the two fine western towers, which we illustrate, were complete in 1067; for the design is more archaic than that of St. Stephen, Caen, which is variously said to have been dedicated in 1073, 1077, 1081, or 1086. In 1358, during the Hundred Years' War, the abbey was pillaged, and it was at this time that the Romanesque choir was destroyed. The XIVth century choir was but three bays long, ending in an apse of seven bays; this apse was surrounded by an ambulatory, and from the ambulatory radiated seven chapels, two of which in part survive. The abbey was again sacked in 1415 after the battle of Agincourt. In the XVIth century was demolished the wooden spire, of prodigious height, of the central tower. The conventual buildings are mainly XVIIth century work. The two western towers are 170 ft. high. They differ slightly in design. It is asserted that in the Middle Ages only metropolitan cathedrals, certain collegiate churches, and the royal abbeys were allowed western towers precisely alike.

The upper stage of each is hexagonal. The nave has what is called the Lombard plan, though it is yet to be proved that it originated in Lombardy—*i.e.*, compound piers and cylinders alternate, as at Durham and elsewhere. In front of the compound pier a massive roofing-shaft rises to the top of the clearstory wall. These shafts supported broad transverse arches spanning the nave. The central span of the nave was not vaulted; but, as at St. George de Bockerville and Cérisy, probably the roof timbers were set longitudinally on gables carried by the transverse arches. The nave consists of eight bays—*i.e.*, of four coupled bays. Internally the elevation of the nave has an archaic look, and is evidently influenced by Bernay. The ground story occupies less than half the elevation; the triforium stage is low and is not separated from the clearstory stage by a string. The clearstory stage occupies a very large space. Unlike most of our own Norman churches, there is no passage in the clearstory wall, and, consequently, no inner arcade to the clearstory windows, each of which is set in an expanse of blank wall, in the fashion of Fountains nave. As in St. Etienne, Caen, and Gloucester choir, there is a superposed vaulted aisle; but in these two the vault is a half barrel, whereas at Jumièges it is groined. The piers and cylinders are low and massive; the pier-arches are in recessed orders, but are neither carved nor moulded. As in Ely transept, patterns were painted on some of the caps, probably intended to be carved subsequently. The aisle has a groined vault. Externally the aisle wall is lofty; each bay has two superposed windows, not separated by a string; the lower window lights the lower aisle, the upper the superposed aisle; the same arrangement was repeated at St. Etienne, Caen, St. Albans, Ely, and elsewhere. The buttresses are flat pilaster strips, neither staged nor ornamented. The paucity of string-courses gives a curiously archaic look to Jumièges. The western arch of the central tower survives. South of the transept, in the usual position, were the sacristy and chapter-house, east of a cloister. South of the choir is the little parish church of St. Pierre, part of which is asserted to be work of the Xth century; its nave, however, appears to be two centuries later. The whole church is said to have been 265 ft. long, and its nave to have had a span of 33 ft.; the choir was

45½ ft. long with a span of 31 ft. In the transepts were return-galleries, as at St. Etienne, Caen, Winchester, and Ely.

STAIRCASE, DEPTFORD TOWN HALL.

THE view is taken from the doorway of the Councillor's Assembly-room on the mezzanine floor, looking downward to the main entrance, and upward to the Council Chamber on first floor. The galleries on each side lead to the suite of committee-rooms. The drawing shows the work as now being carried out, slight modifications having been made from the competition design. The columns are in Breccia, and stairs in Sicilian marble, with wrought-iron balustrade; the walls being finished in Parian and painted.

The architects are Messrs. Lanchester, Stewart, and Rickards.

WITHAM HALL, LINCOLNSHIRE.

THE extensive alterations to this mansion, shown in the illustration, were completed in the autumn of last year. The original house was a rambling old building, built and added to at various periods, most of which has been pulled down, with the exception of the portion comprising the hall and drawing-room. This part of the house dates from about 1750.

The library wing is also part of the old house, but the upper story has been raised, and a new roof and bay added to bring it into harmony with the new dining-room wing. The new billiard-room is a handsome apartment, and has a large brick fireplace and carved wood mantel.

The block containing the kitchen offices is the oldest part of the house, probably dating from the latter end of the XVIIth century.

At the wish of the owner the roofs were entirely re-slated with the old stone slates obtained from the pulling down and from other old buildings. The stone work was partly from old materials and partly from new stone found on the estate.

The house is lit by acetylene gas supplied by the St. James Company, of Victoria-street, Westminster.

The general contractors were Messrs. W. Pattinson and Sons, of Ruskington, Sleaford, Lincolnshire, and Mr. John Fletcher acted as clerk of works.

The drawing was hung in last year's Academy and is from the hand of the architect, Mr. A. N. Prentice.

HOUSE AT PEEBLES.

THE buildings consist of the house as illustrated, a stable and coachman's house, and an entrance lodge. The walls are built of rough squared rubble with dressed corners, rybats, etc. The stone used is of a warm cream colour, and was obtained from Black Pasture, Prudhim, and Eastfield Quarries, which provided a slight variation in the colour. The roofs are covered with Edwards's dark blue, brown, and red tiles as they came from the kiln. These tiles are very hard, and do not take on any weathering; but a pleasing effect is obtained by mixing the various shades as they come from the kiln, without having them picked for equal shades. The casement windows are Messrs. Hopes'. The hall, staircase, and part of the study are panelled in Austrian oak. The stable buildings have been fitted up by Messrs. Musgrave, and both the stable and yard are paved with their adamantine clinkers.

The following are the contractors for the various trades:—Mason work, Messrs. Neil M'Leod and Sons, Edinburgh; joiner work, Mr. Peter Barton, Edinburgh; plumber work, Messrs. Morrison and Son, Edinburgh; plaster work, Mr. L. Grandison, Peebles; tiler work, Mr. William Fairbairn, Peebles.

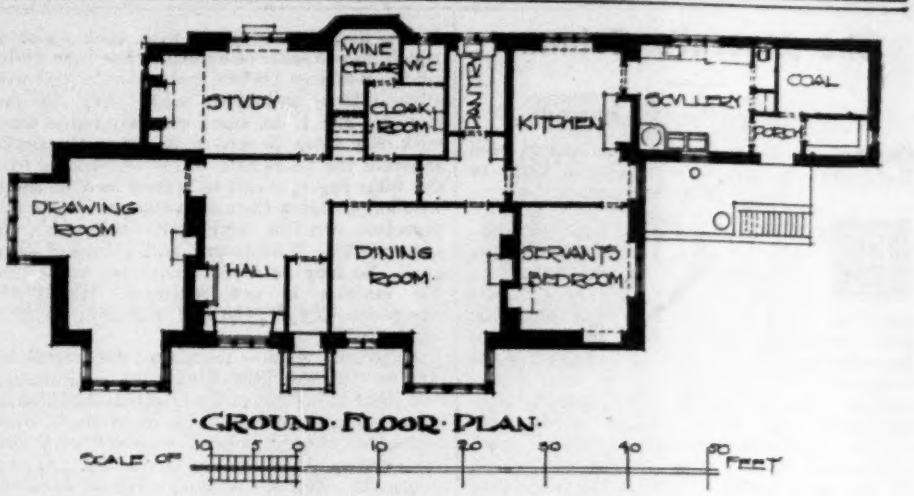
The total cost of the works, including the laying-out of the garden, has been a little over 7,000*l.*

A. HUNTER CRAWFORD.

COMPETITIONS.

PROPOSED CONSERVATIVE AND UNIONIST CLUB, CARLTON, NOTTINGHAM.—The competitive design of Mr. C. J. Whitbread, of Carlton, has been selected, and Mr. Whitbread has been appointed architect for the work, which is to commence shortly.

FREE LIBRARY, LOUGHBOROUGH.—In response to an invitation by the Loughborough Town Council, eight designs were submitted to them for a new Carnegie Library. The Council had arranged with Mr. George Hodson, M.I.C.E., F.G.S., to advise and assist them in making the



House at Peebles. Plan.

selection of a design, and, at a recent meeting of the Council, held to consider Mr. Hodson's report, it was decided that the design submitted by Messrs. Barrowcliff and Allcock, of Loughborough, should be adopted. The assessor selected two designs—*i.e.*, the one selected by the Council and the design submitted by Messrs. Sutton and Gregory, of Nottingham. The main entrance to the library in the accepted design is to be from Granby-street, the building being set back a distance of 19 ft. The reading-room, which has been made the main feature of the design, is 40 ft. square. A portion of this reading-room has been set apart for the use of ladies only, and is to be curtained off. The lending library is 35 ft. by 28 ft., and extends through the first floor, a wide balcony over forming the patent library, which is lighted from the top. The bookshelves are arranged in tiers 3 ft. apart and 7 ft. 6 in. high, with a window between each section giving a direct light to the bookshelves. Each section contains 24 ft. of shelving in eight tiers, giving a total accommodation of over 13,000 volumes. The borrowers' lobby is in direct communication with the entrance hall, and a portion of the counter is screened off to provide separate accommodation for children. The patent library is approached by a wide staircase from the entrance hall, and is so arranged that at a small additional cost this room can be extended to a further distance of 35 ft., thereby providing a room 60 ft. by 28 ft. The reference library, 23 ft. by 18 ft., is also arranged in direct communication with the entrance hall, and is situated about the centre of the site. There are also arranged librarians' room, store and packing room, staff mess-room, lavatories, etc. The librarian's house is to be on the Packe-street side of the site, and in direct communication with the library buildings. There is an open space of about 200 sq. yds., with a frontage to Packe-street; this would be available for any future extension, or for the erection of any other public building which may be required. The heating will be by means of low pressure hot water radiators. Externally the library will be faced with red sand stock bricks with tawny terra-cotta dressings.

BOOKS RECEIVED.

AN INQUIRY INTO DECIMAL COINAGE AND THE METRIC SYSTEM. By Edwyn Anthony. (G. Routledge and Sons.)

A DIGEST OF THE LAW RELATING TO THE EASEMENT OF LIGHT. By E. S. Roscoe. Fourth Edition; revised and enlarged. (Stevens and Sons. 7s. 6d.)

OXTED, LIMPSFIELD, AND EDENBRIDGE. (The Homeland Association. 6d.)

SPECIFICATIONS IN DETAIL. By F. W. Macey. Second Edition, revised and enlarged. (Crosby Lockwood and Son.)

Correspondence.

THE ETON MEMORIAL HALL.

SIR,—I believe that there can be no objection to my calling attention to a significant fact in connexion with the competitive designs for the Eton Memorial Hall now privately being exhibited.

It will be remembered that the site of the proposed building is opposite the continuous façade formed by Upper School, the Ante Chapel, and the porter's lodge, and flanked by two modern houses, one of considerable height. The new schools, designed by Woodyer in the Tudor style, are also prominent. With the exception of the Manor House (which makes no attempt at architectural design) and the Upper School (in the early classic manner), the whole of this group exhibits the features of Tudor design, and Upper School itself has had a narrow escape, during the last half of the XIXth century, from being "brought into harmony" by the substitution of Gothic features for the original design.

Contrast with this last suggestion the fact that of the sixteen schemes only three exhibit any close approach to this traditional style, the majority being in favour of pure classic. How different the spirit to that in which Pearson ruined Cockerell's lovely fragment at the Cambridge University Library by the addition of "a little thing of his own" in the most uncompromising "Third Pointed"?

I trust that, by calling attention to this point before the awards are made, I am not infringing any of those mysterious and dangerous laws of architectural "etiquette" which beset the intrepid. ETONIAN.

WATER-CLOSET PARTITIONS.

SIR,—A case of some interest to builders, sanitary authorities, and owners of property was recently heard by Mr. Cluer, one of the Magistrates at Worship-street Police Court, in which the owners of premises in Wilson-street, Finsbury, were summoned by the Finsbury Borough Council for that a water-closet, newly constructed by their builders, was "in bad order, out of condition," and "required alteration and amendment." The proceedings were taken under section 41 of the Public Health (London) Act, 1891, and the prosecution alleged that the partition walls of this water-closet, which abutted on a "workplace," situated on the top floor of the building, did not comply with clause 2 of the London County Council's by-laws in reference to the construction of water-closets, which reads as follows:—

"He shall construct such water-closet so that on any side on which it would abut on a room intended for human habitation, or used for the manufacture, preparation, or storage of food for man, or used as a factory, workshop, or workplace, it shall be enclosed by a solid wall or partition of brick or other materials, extending the entire height from the floor to the ceiling."

This partition consisted of 1-in. matchboarding, properly tongued, etc., and the Borough Council's contention was that this was not "other materials" of a solid character. Instead of proceeding against the "person constructing"—*i.e.*, the builders (who invited them to do so)—for any contravention of the by-law, they waited for three months after the completion of the work, and then took proceedings against the owners. The Magistrate, however, was against them on the point of "other materials," and held that it was solid. The builders invited the Superintending Architect of the London County Council to define what "other materials" would, in his opinion, imply, but that gentleman declined to commit himself by so doing. The Borough Council then, finding that the Magistrate was against them on this point, further alleged that the materials had shrunk and the joints opened, when he adjourned the case so that he could see himself whether this was so or not, and in the end dismissed the summons, with 2*l.* 2*s.* costs against the Borough Council. G. J. GAVES.

The Student's Column.

NOTES ON PORTLAND CEMENT:

CHAPTER II.—THE CHEMICAL ANALYSIS AND VALUATION OF THE RAW MATERIAL USED IN CEMENT MANUFACTURE.

ESSENTIALLY Portland cement consists of silica, alumina, and lime. The materials from which the lime is obtained are of very different qualities. They are found as soft chalk or hard crystalline limestone and many degrees between these two, but, as a rule, the harder the substance the more carbonate of lime it will contain. The soft chalks, although nearly pure carbonate of lime when dried, in natural state contain much water; while some of the hard limestones in natural state contain as much as 99 per cent. $CaCO_3$ Just as the limestones vary, so the other raw material, the clay, is found in different forms. It occurs in all grades, from the plastic clay or river mud to the hard shales. These raw materials are never found quite pure, but containing varying proportions of foreign chemical compounds, such as carbonate of magnesia, water, sulphuric acid, alkalies, coal, etc. Because of this, it is of the greatest importance, if the finished cement has to be a reliable one, for the manufacturer to know their exact composition. This is only determined by chemical analysis. The following methods of analysis are as carried out by Dr. Karl Schosch, of the High School of Charlottenburg:—

Limestone Moisture.—100 grammes of the crushed material is put in a wide glass tube and dry air pumped through it till the weight is constant. The loss in weight is the moisture to air-dryness. The tube is next placed in an air oven and kept at 105° C. for two hours. The loss in weight added to last result gives the total moisture.

Loss on Heating.—Weigh 2 grammes of the dry substance, after grinding, into a platinum crucible and heat over a gas blow-lamp till the weight is constant. The loss is combined water, organic matter, and carbonic acid. The carbonic acid is estimated in another portion of the dry substance by any of the well-known methods for carbonates (Mohr's apparatus is recommended). This result deducted from the last gives combined water and organic matter. The combined water may be estimated in another portion of the substance by heating 2 grammes in a hard glass tube, through which a current of dry air is passed, and catching the water expelled in pure dry calcium chloride.

Insoluble Residue.—In most limestones this is present only in small quantities, so it is not necessary to separate the silica, sand, and oxides of iron and alumina. After determination of the loss on heating, transfer the residue in the crucible to a porcelain basin, add a little water, then gradually about 10 ccs. of 20 per cent. hydrochloric acid, and dilute the whole to about 250 ccs.

Heat to boiling, and add ammonia till alkaline (test with litmus paper). The precipitate consists of clay, sand, silica, oxides of iron and alumina. Take the basin from the burner, when the precipitate will quickly settle to the bottom. Filter into a litre flask, and wash till not a trace of chlorine is in the washing water (test with silver nitrate).

In washing do not stir up the precipitate with the water, because the silica might go through the filter paper. After washing, transfer the precipitate, yet wet, to a platinum crucible, and burn for ten minutes after the paper is ashed.

Lime.—When the filtrate in the litre flask is cool make up to the mark with distilled water. Draw off 500 ccs. into a beaker, add a few drops of hydrochloric acid to prevent precipitation of the carbonate of lime, and boil. Next carefully add crystalline oxalic acid, then slight excess of ammonia. Allow the precipitated oxalate of lime to stand—in a warm place if possible—during the night. By this means it is not necessary to reprecipitate the lime. Filter, wash with boiling water till no chlorine is in the washings (test with silver nitrate), dry, ignite in a platinum crucible over a blast-lamp till constant, and weigh as CaO.

Magnesia.—To the filtrate from the lime add a few drops of hydrochloric acid, evaporate to a bulk of 250 ccs., allow to cool, and add 250 ccs. of 10 per cent. ammonia, then sodium phosphate. Stir well till the phosphate of magnesia separates, allow to stand twelve hours, and filter. Wash with cold water to which 20 per cent. of ammonia has been added till the washings are free from chlorine (test with silver nitrate and nitric acid). Dry the precipitate, and if in small quantity ignite along with the filter paper, if in large proportion separate the phosphate as far as possible from the filter paper, which is burned in a platinum wire loop, adding the ash to the precipitate in a porcelain crucible, and ignite the whole till quite white. If necessary, add a drop of nitric acid. So long as black points are to be seen the ignition is not complete. Weigh the phosphate ($Mg_2P_2O_7$) and calculate to MgO or $MgCO_3$.

Sulphuric Acid.—Acidulate the remaining 500 ccs. in the litre flask with hydrochloric acid, heat to boiling, and precipitate the sulphate with barium chloride. Allow to stand overnight, and if only in small quantity wash with cold water, otherwise use hot water. A good paper for filtering barium sulphate is made by Schleicher and Schull (Blue Band No. 589). Ordinary filter paper moistened with a 10 per cent. solution of ammonium acetate will prevent the barium sulphate passing through. After good washing (test with silver nitrate for chlorine, not for barium with sulphuric acid), burn the precipitate in a porcelain crucible. If pyrites is present the following separation is necessary. Put 2 grammes of the original dried substance into a porcelain basin, cover with bromine water, add 25 to 30 ccs. hydrochloric acid, and boil. By this means the sulphide is oxidised into sulphate. The total sulphate is then estimated as above. The difference between this and the last result gives the sulphur present as sulphide.

Alkalies are usually obtained by difference. If required to be estimated, use Laurence Smith's method, which is as follows:—Mix 0·5 gramme of the very finely-powdered substance with 0·5 gramme of sal-ammoniac and enough pure precipitated carbonate of lime to bring the mixture to about 80 per cent. $CaCO_3$; put the mixture into a platinum crucible. Heat, with the lid on, first for half an hour over an Iserlohn burner, then for another half hour over a blast-lamp. The alkalies assume the form of chloride. Soak the crucible and contents in water; heat, and filter. From the filtrate precipitate the lime by means of carbonate of ammonia at a boiling heat, filter off the carbonate of lime, evaporate to dryness, ignite the residue gently to remove the sal-ammoniac, and weigh what remains. This residue should consist only of fixed alkali chloride, but generally it is contaminated with lime and magnesia; hence it is advisable to redissolve it in the crucible in a little water, add a pinch of pure lime, and treat again as before. The pure alkali chlorides are weighed and the potash determined by chloroplatinic acid.

Analysis of Clays.—The moisture, combined water, carbonic acid, and organic matter are estimated as in limestone.

Gross Analysis.—Mix 2 grammes of the very finely-powdered dry substance with about 10 grammes of a mixture of sodium carbonate 50 parts, potassium carbonate 50 parts, and potass nitrate 5 parts. Place in a platinum crucible and fuse over a blow-pipe flame till all effervescence ceases. While the contents of the crucible are still molten, quickly chill the bottom of the crucible by placing in a shallow basin containing cold water. Now place the crucible and lid in a large porcelain basin and cover with water to which a few drops of hydrochloric acid has been added. When the melted mass is free from the crucible remove the latter from the basin, washing it thoroughly. Evaporate to dryness, take up the residue with water acidulated with hydrochloric acid, heat to boiling, and filter the silica, care being taken not to wash any of it through the paper as explained in limestone analysis. Dry and ignite, taking precautions to prevent any of the silica, which is very light, escaping from the crucible. Heat the filtrate from the silica to boiling and add ammonia in slight excess. Filter the precipitated oxides of iron and alumina, wash thoroughly, transfer while yet wet to a platinum crucible, and ignite. If manganese is present, the following method of reparation is employed:—Neutralise the filtrate from the silica in the cold with sodium carbonate; mix with perfectly neutral sodium acetate and heat to boiling.

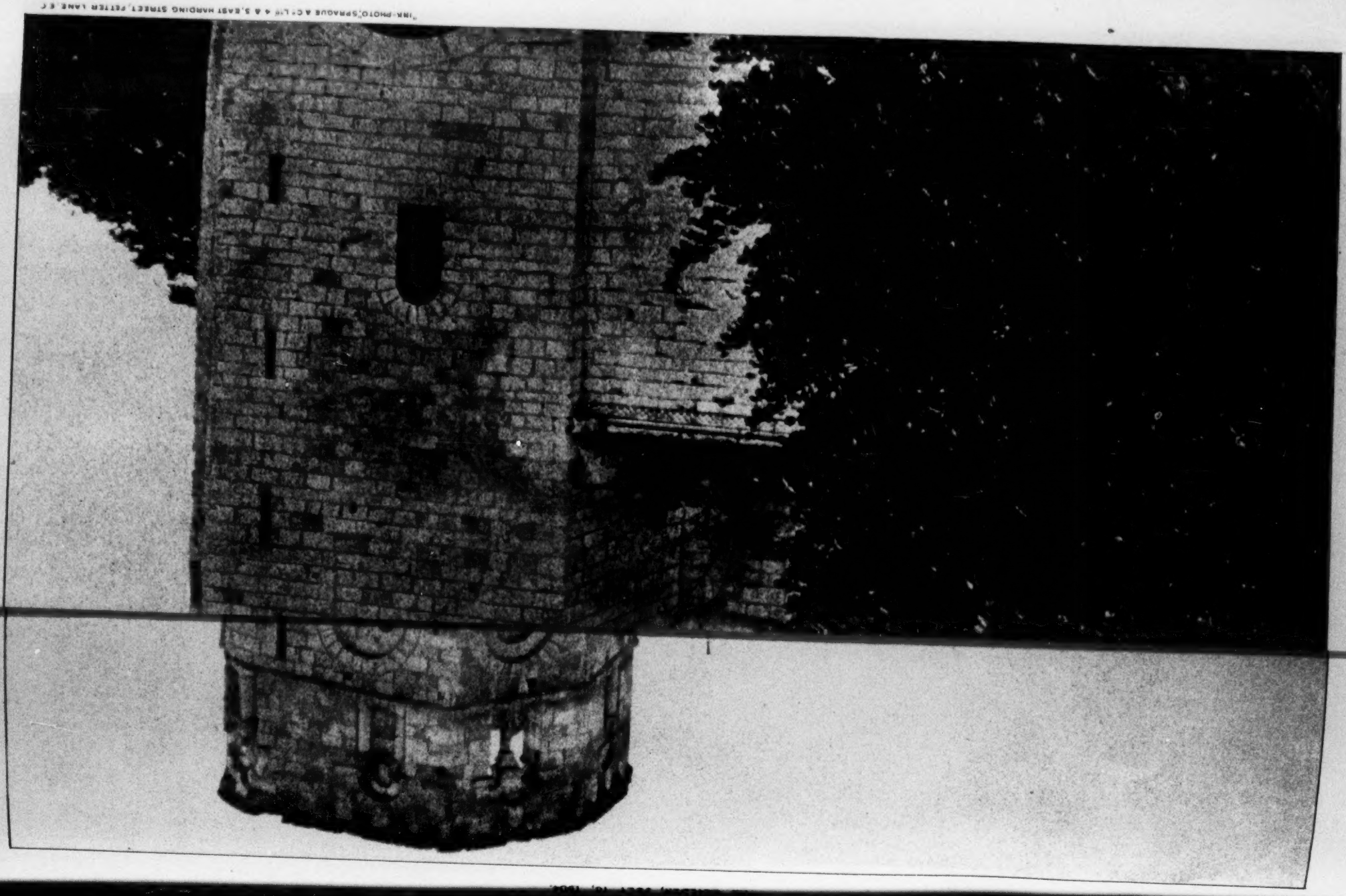
The alumina and iron are precipitated as basic acetates, but at boiling heat the manganese salt is quite soluble. After two minutes boiling take the beaker from the flame, allow to settle, filter hot and as quickly as possible, and wash with very hot water. Next dissolve the precipitate in hydrochloric acid and precipitate the second time with ammonia. All the manganese is in the two filtrates, which are mixed and neutralised with sodium carbonate. Add excess of bromine water, boil and filter the separated manganese. Wash with boiling water, transfer while yet wet to a platinum crucible, and ignite sharply. Weigh as Mn_3O_4, and calculate to MnO.

Lime, magnesia, sulphuric acid, pyrites, and alkalies are separated as explained in limestone analysis.

In valuing his clay the gross analysis alone does not give much information to the cement-maker. A method founded on that of Lunge and Schocher's for marls is used with advantage by the author. The *modus operandi* is as follows:—A gross analysis is done as just explained, only the iron is separated from the alumina by fusing the ignited oxides with acid sulphate of potash, dissolving in sulphuric acid and titrating with standard potassium permanganate. One gramme of the dry clay is then ground to approximately such a fineness as it would be in grinding the raw material for practical working, and mixed with enough pure dry carbonate of lime to bring the total $CaCO_3$ in the mixture to about 80 per cent. The mixture is strongly ignited in a platinum crucible over a blow-pipe flame, the same heat and time of ignition being maintained each analysis. The mass is transferred to a large porcelain basin, water added, and then about 20 ccs. hydrochloric acid. The liquid is evaporated to dryness, the residue taken up with water and a few ccs. hydrochloric acid, filtered, and washed free from chlorine. The precipitate consists of silicic acid, sand, and undecomposed silicates. This is boiled along with the filter paper in a nickel basin with 20 per cent. solution of sodium carbonate, filtered, and washed, first with hot sodium carbonate solution and then hot distilled water, till all the silicic acid is dissolved and the sodium carbonate washed out. The residue on the filter consists of difficultly fusiable silicates and coarse sand, which is ignited in a platinum crucible and weighed. This result varies according to the time of heating and the intensity of heat applied; but, if always carried out in the same manner, comparative results can be obtained which will give the manufacturer an expression of the cement-making value of the clay. The other constituents are determined as explained under gross analysis. Fresenius' modification of Seger's method, by decomposing the clay with hot concentrated sulphuric acid, is not convenient and is tedious, which led the author to adopt the carbonate of lime method; moreover, sulphuric acid does not act on the felspar and fine sand, so that the cement-maker cannot by this method determine if his clay is or is not easily decomposable in the burning of the raw mixture. The results of analysis given below are obtained from a sample of clay by the three methods described.

	Gross Analysis	Fresenius' Method.		$CaCO_3$ Method.
		Soluble in HCl.	Insol.	
	per cent.	per cent.	per cent.	per cent.
Carbonic acid ..	11·38	—	—	—
Water and organic matter..	6·69	6·69	—	6·69
Soluble silica ..	42·33	0·49	23·32	33·01
Insoluble silica..		—	18·43	9·23
Alumina	23·27	3·38	18·32	15·96
Oxide of iron ..				5·74
Lime	14·69	—	0·39	0·39
Carbonate of lime	—	25·09	—	25·09
Magnesia	1·47	0·31	0·61	0·92
Carbonate of magnesia	—	0·65	—	0·65
Sulphuric anhydride	1·30	1·30	—	1·30
Alkalies, etc. ..	—	—	1·02	1·02

THE VILLA MEDICI DRAWINGS.—As usual, the work sent from Rome by the students of the French school at the Villa Medici has been on view at the École des Beaux-Arts. M. Prost, a first-year student, exhibits drawings of the Theatre of Marcellus, and some interesting fragments from Pompeii. M. Hulot has sent studies of the Forum of Nerva, and a fine water-colour of the Palatine Chapel at Palermo. M. Tony Garnier, a fourth-year student, sends drawings of a "Cité Industrielle," the details of which are both architecturally and practically interesting.



WESTERN TOWERS, JUMIEGES.

"JIRA-PHOTO," SPRAGUE & Co., LTD., 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

water. Next dissolve the hloric acid and precipitate h ammonia. All the man- filtrates, which are mixed h sodium carbonate. Add water, boil and filter the ese. Wash with boiling le yet wet to a platinum sharply. Weigh as Mn_3O_4, O.

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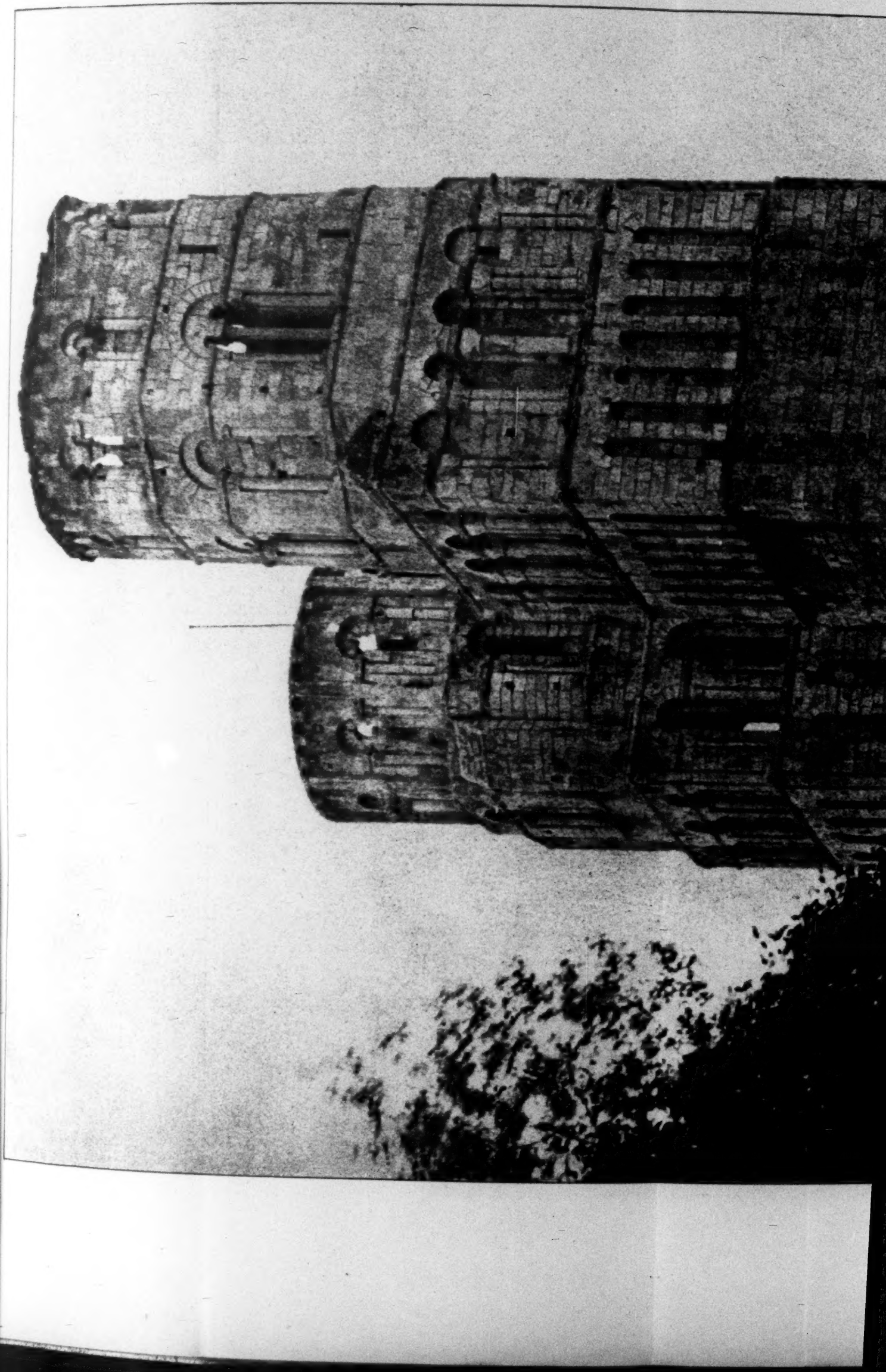
Gross Analysis	Fresenius' Method.		$CaCO_3$ Method.
	Soluble in HCl.	Insol.	
per cent.	per cent.	per cent.	per cent.
11·38	—	—	—
6·69	6·69	—	6·69
42·33	0·49	23·32	33·01
	—	18·45	9·23
23·27	3·38	18·32	15·96
			5·74
14·69	—	0·39	0·39
—	25·09	—	25·09
1·47	0·31	0·61	0·92
—	0·65	—	0·65
1·30	1·30	—	1·30
—	—	1·02	1·02

MEDICI DRAWINGS.—As usual, the om Rome by the students of the l at the Villa Medici has been the École des Beaux-Arts. M. t-year student, exhibits drawings tre of Marcellus, and some in- gments from Pompeii. M. Hulot dies of the Forum of Nerva, and colour of the Palatine Chapel at M. Tony Garnier, a fourth-year ds drawings of a "Cité Indus- details of which are both archi- d practically interesting.



WESTERN TOWERS, JUMIEGES.

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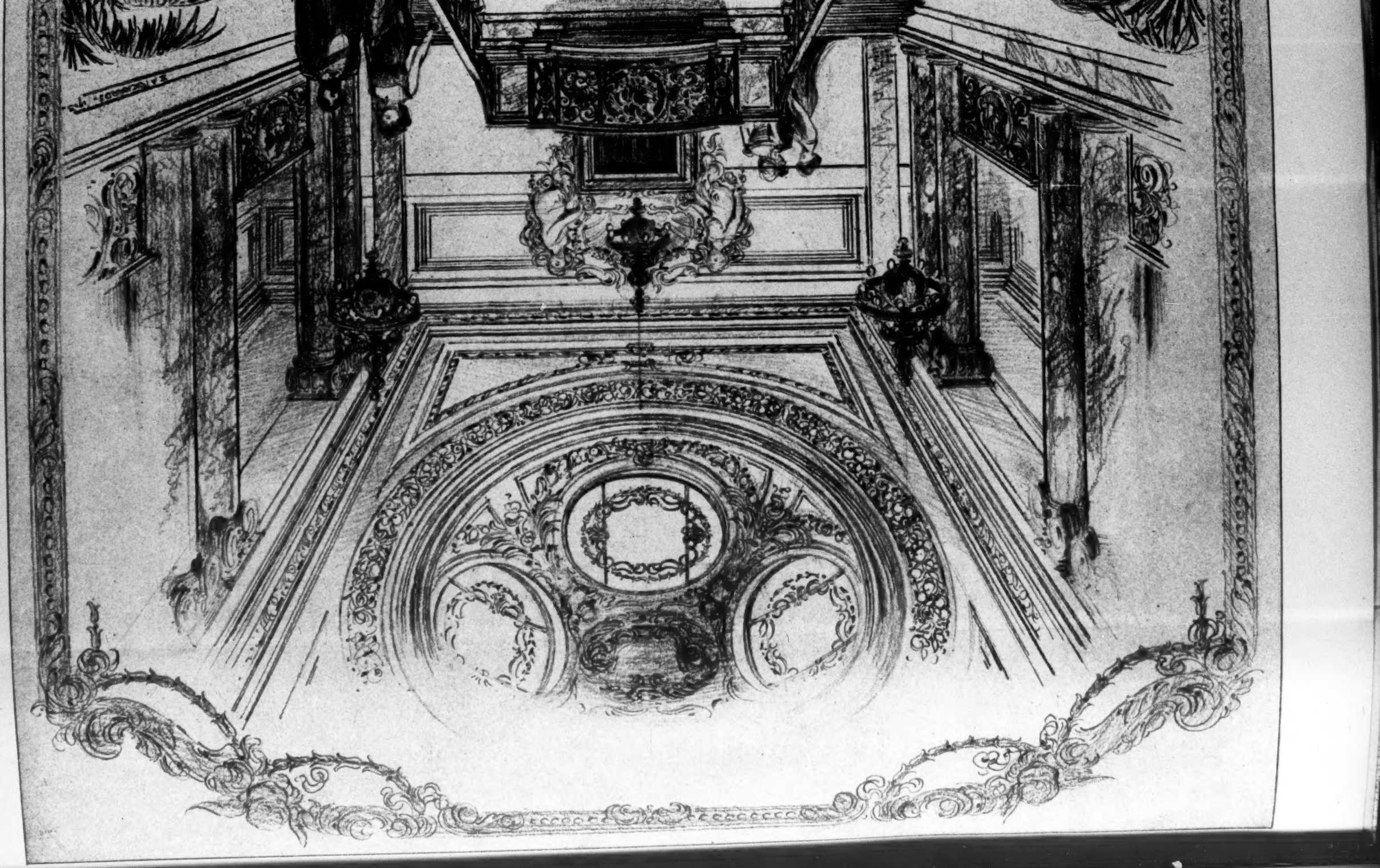

DEPTFORD TOWN HALL.

View on Staircase

Lancaster Stuart Architects

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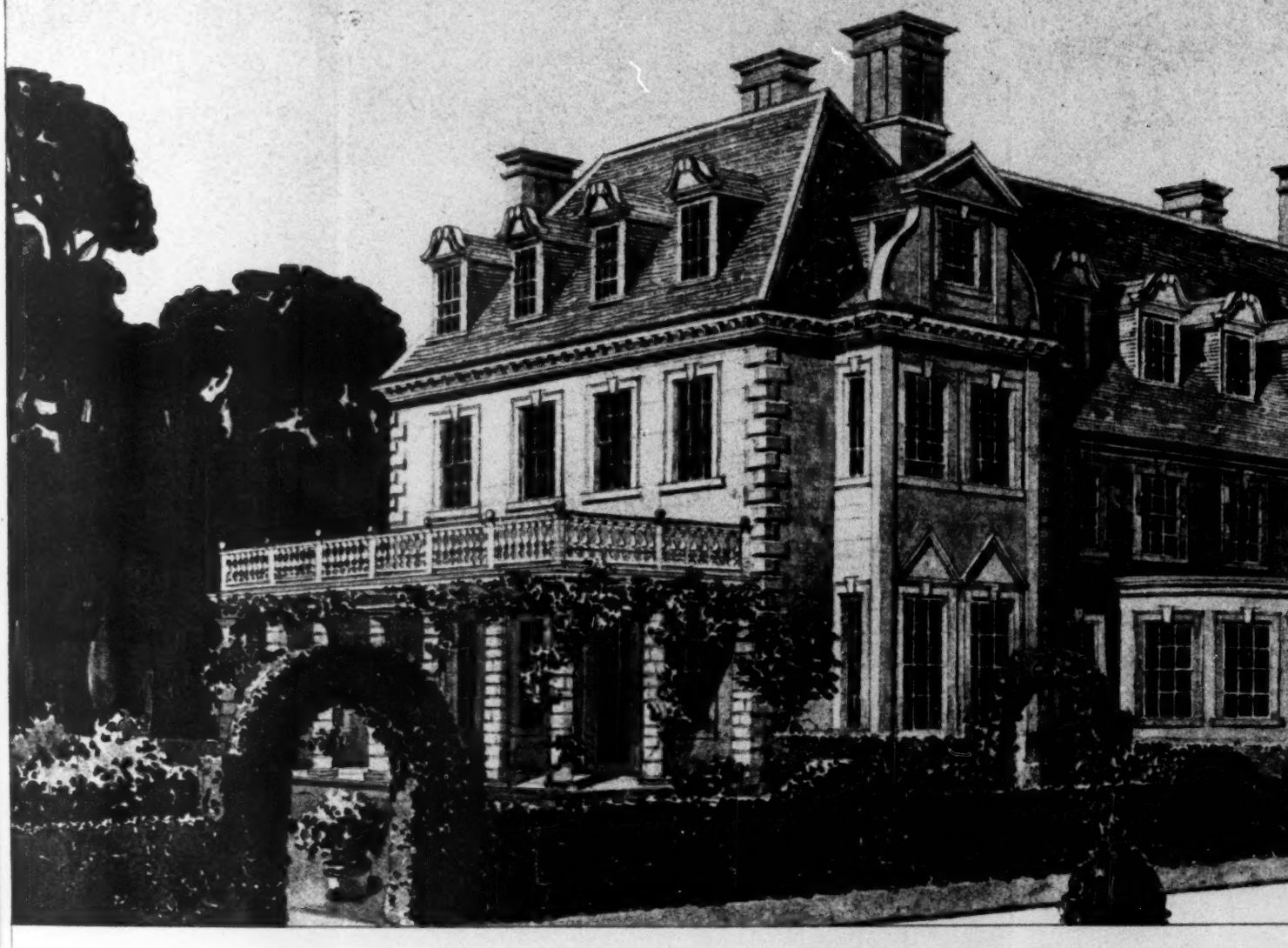
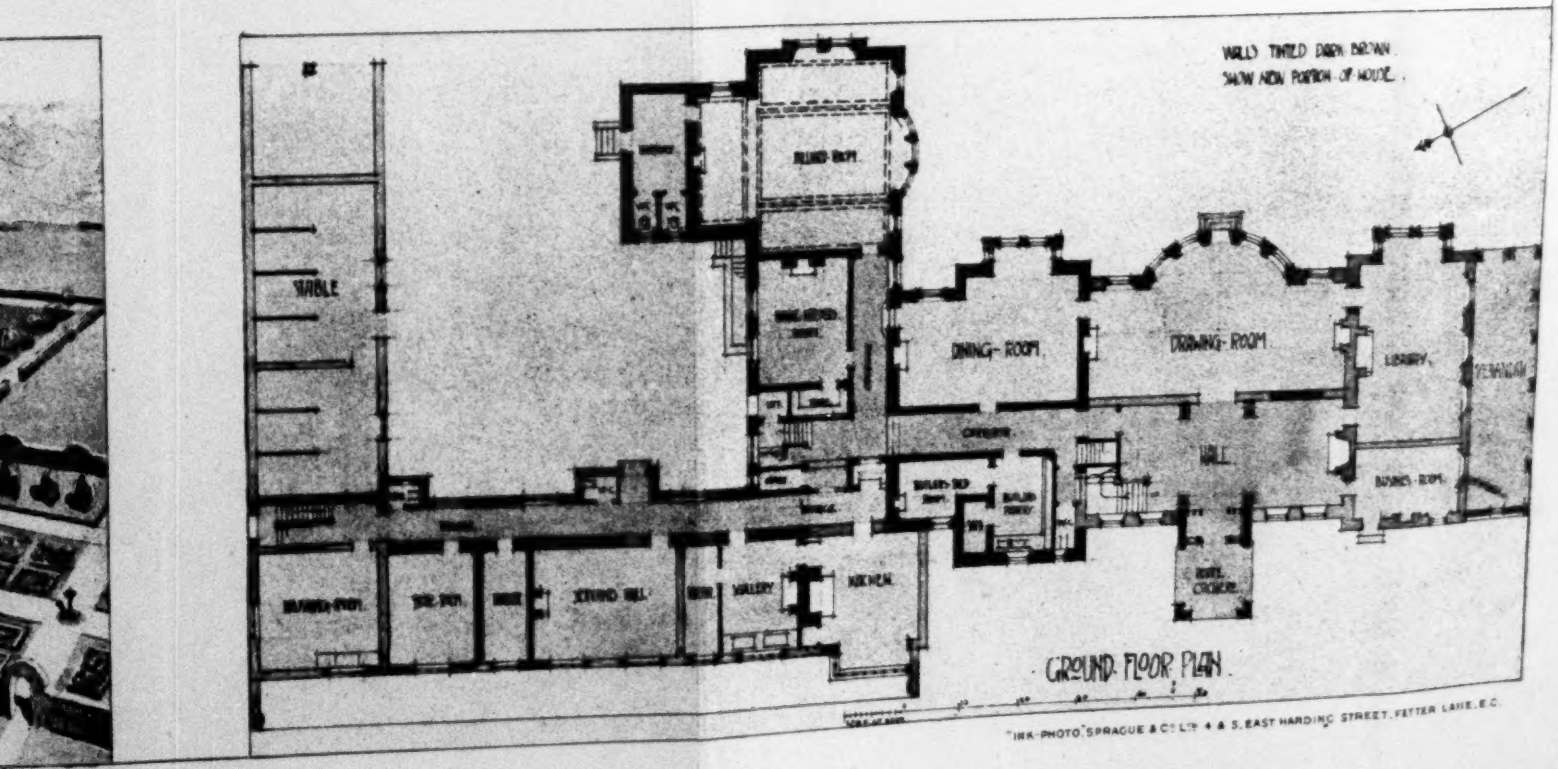
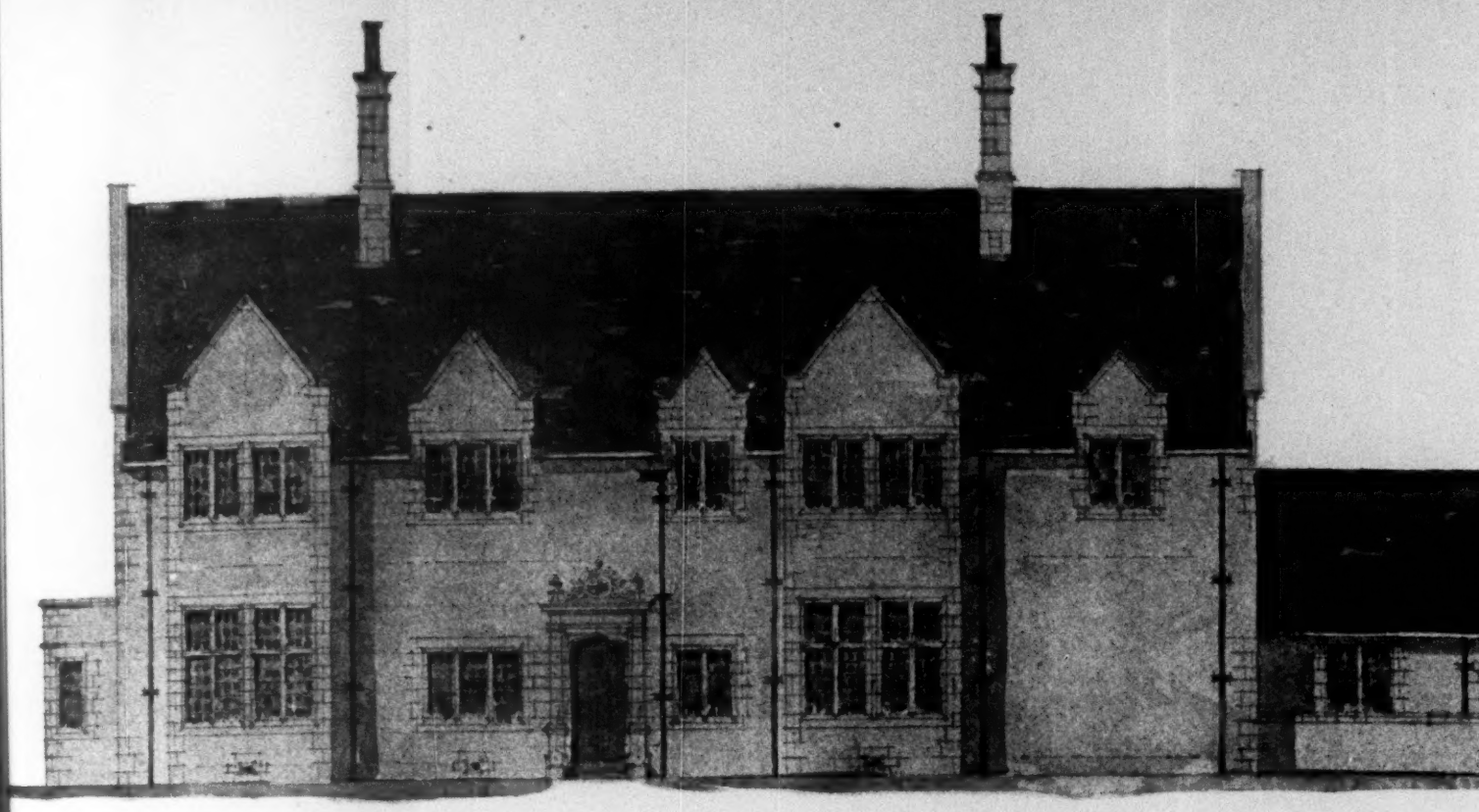
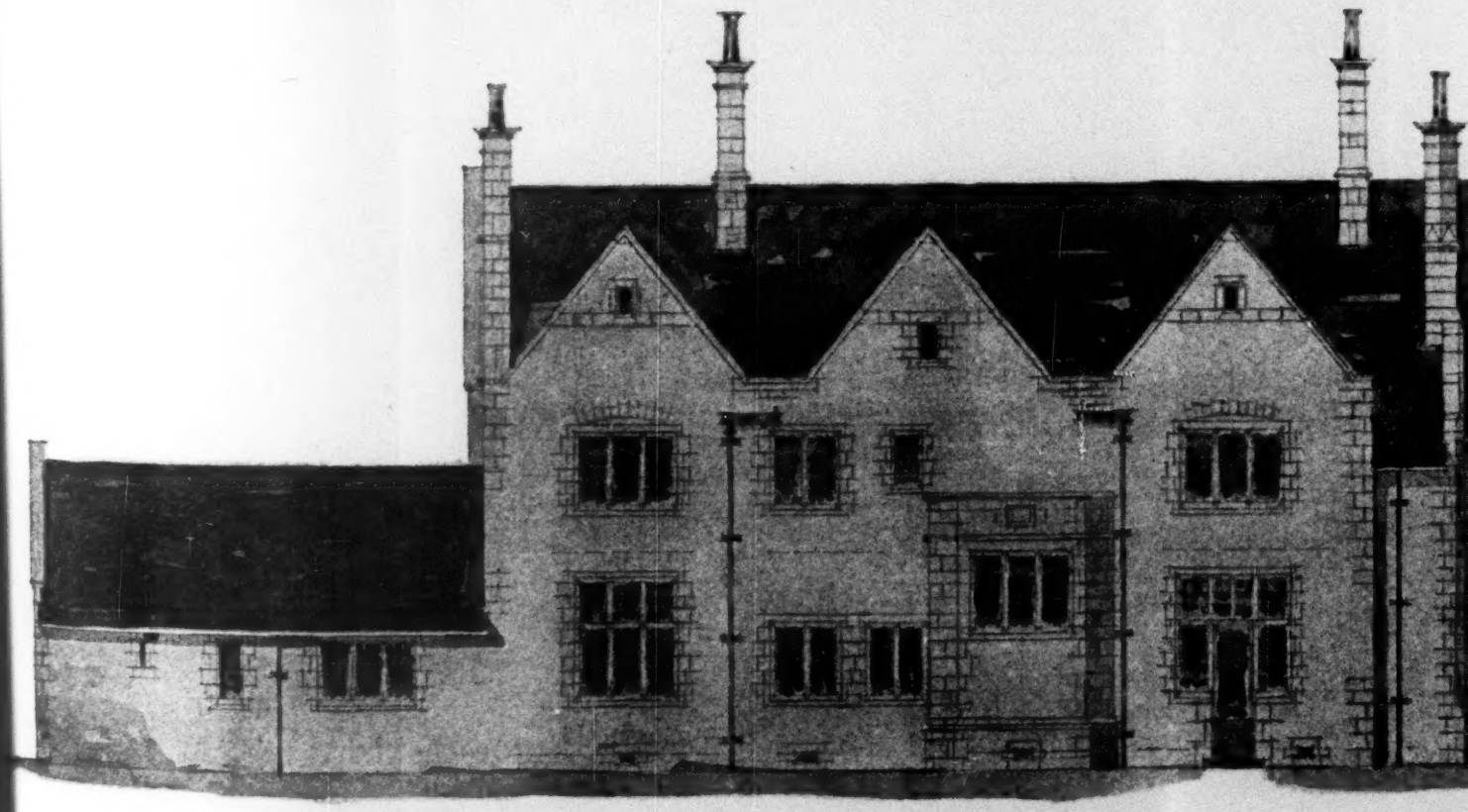



WALLS TINTED DARK BROWN.
SHOW NEW PORTION OF HOUSE.
TABLE
DINING-ROOM
DRAWING-ROOM
LIBRARY
HALL
GROUND FLOOR PLAN.
"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.



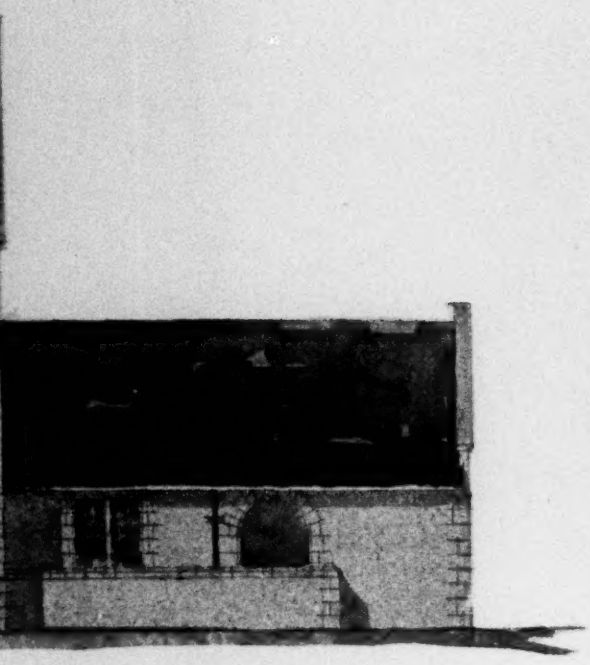
EAST ELEVATION

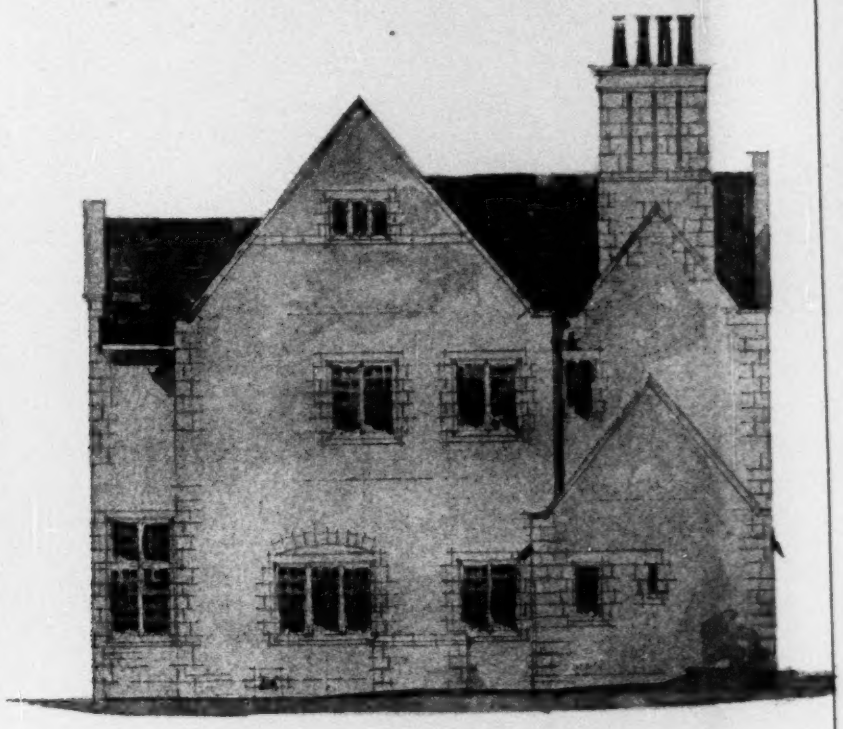


WEST ELEVATION

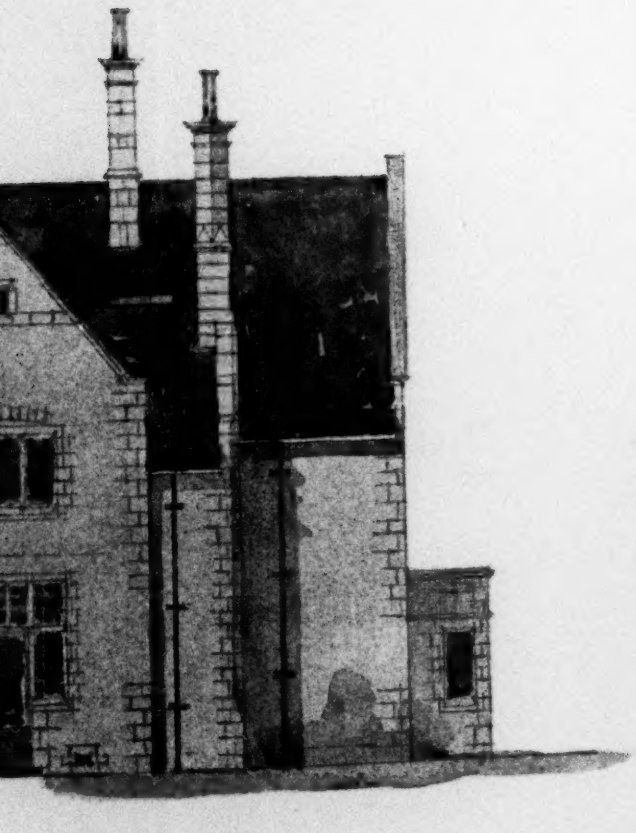
SCALE 10 5 0 10 20

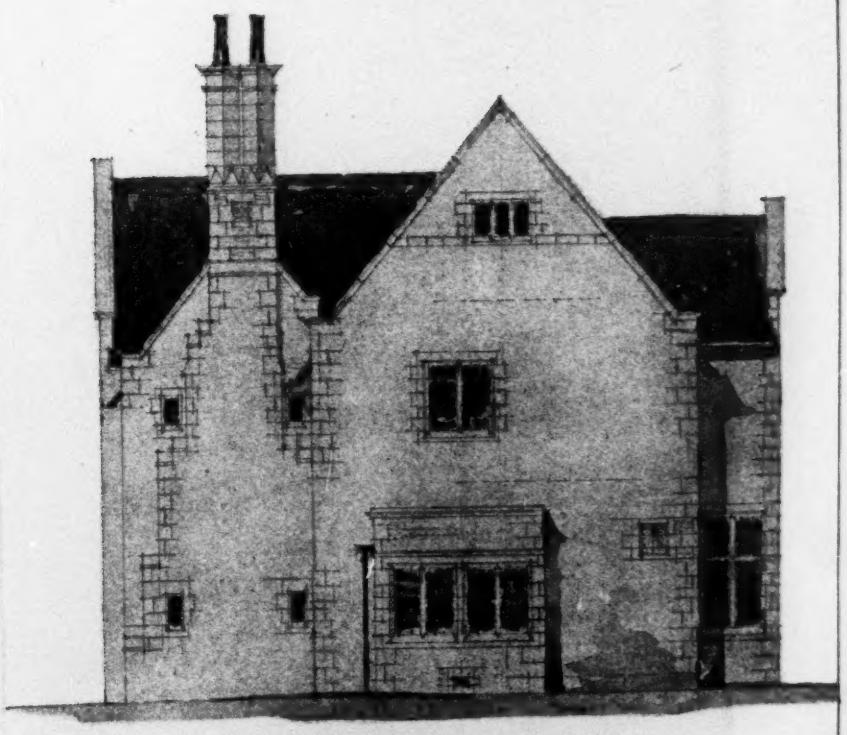
HOUSE AT PEEBLES.—Mr. A. Hunter Cr





NORTH ELEVATION





SOUTH ELEVATION

20 30 40 50 OF FEET

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ES.—MR. A. HUNTER CRAWFORD, F.R.I.B.A., ARCHITECT.

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METROPOLITAN ASYLUMS BOARD.

THE usual fortnightly meeting of this Board was held on Saturday last week at the offices of the Board, Victoria Embankment.

Among the correspondence received was a communication from the Local Government Board authorising the execution of certain works at Belmont Asylum at a cost not exceeding 15,000*l.*

Darenth Asylum and Western Hospital.—On the recommendation of the Finance Committee, it was agreed to apply to the Local Government Board for authority for the expenditure of 770*l.* on enlarging the workshops at the Western Hospital, and the rearrangement of the principal officers' accommodation at the Darenth Asylum.

Leavesden Asylum.—The Asylums Committee submitted a lengthy report *re* the purchase of additional land at this asylum for the purpose of an extension of the sewage system. It was agreed, on the recommendation of the Committee, to apply to the Local Government Board for sanction to purchase a piece of land, 57a. 1r. 32p. in extent, adjoining the Asylum estate, at a cost of 6,000*l.*

High Wood School.—Plans prepared and submitted by the Engineer-in-Chief of proposed workshops at this school were approved and ordered to be forwarded to the Local Government Board.

OBITUARY.

MR. THOMAS BROWNE.—The death has just taken place of Mr. Thomas Browne, builder and joiner, at his residence in Whipcord-lane, Chester. Mr. Browne, who was a native of Liverpool, went to Chester many years ago, and followed his trade as a mason. About thirty years ago he commenced business as a builder and joiner at the Tower Wharf, and executed several large contracts in Chester and North Wales. He was well known in the city and district, and for some years served on the Town Council.

GENERAL BUILDING NEWS.

RESTORATION OF SEIGHFORD PARISH CHURCH.—This church has been reopened after restoration. The church is a very ancient one, the earliest portions—the nave, arcade, and the chancel arch—dating from the XIIth century, and the recent work has revealed several points of interests to archæologists. One in particular is a small niche, which was found contained in the wall on the south side of the chancel. There is around the niche some lettering, which is conjectured to be *Moritura in te Deus*. The church was originally Norman and Cruciform. Of this church there remain the chancel arch, the nave arcade on the north side, portions of the chancel walls, and a piscina, which has probably been built in further eastwards. The short Norman chancel, which probably terminated in an apse, was lengthened in the XIIIth century, and a priest's door was inserted. Other windows were inserted on the south side in the XIVth century, and these had again been subjected to alteration at a later period. There are clear indications at the crossing of the existence of a north transept, and it is probable that there was a central Norman tower, which fell and crushed the south side of the nave. The present south wall and western tower of brick were built in the XVIIIth century. These are of the worst possible architectural character, and it is hoped they may, in the not far distant future, be restored in a manner more in keeping with the original structure. The Bridgeford aisle, running the whole length of the north side of the church, is of late Perpendicular date, and the abolition of the former vestry at its west end has opened out the western bay of the Norman arcade. The present work of restoration has been carried out by Messrs. Collins and Godfrey, builders, of Tewkesbury, under the guidance and supervision of the architect, Mr. W. D. Caröe, of London. The outside of the church has been repaired and restored where absolutely necessary, but it is upon the internal portion of the building that most attention has been bestowed. The stonework in the walls has been divested of cement and sham pointing. An entirely new roof of oak has been placed over the chancel, the old timbers in the nave have been reused, and bits of tracery introduced into the principal beams, and the roof over the Bridgeford aisle has also been restored. The floors have been lowered to their original level, and laid with wood blocks in place of bricks, and the passages have been laid with red tiles. The old seating has been cut down and adapted to proper dimensions, and a clergy desk has been made out of the oak panelling removed from the seats. The altar rails, originally of Charles II. date, have also been slightly lowered. The old Jacobean pulpit, which has been removed from its old place at the south-east corner of the nave to a central position between the nave and the Bridgeford aisle, has been restored. The wall which enclosed the vestry in the north-west corner of the church has been removed, the space being filled with seats, and a new vestry has been built in the north-east corner of the Bridgeford aisle. A heating vault has been erected, and a hot-water apparatus placed in the church, this work having been accomplished by Messrs. Rudge and Griffith, of Stafford. The priest's door in the chancel has been opened and restored, and the sanctuary has been tiled and enlarged. The work of rebuilding the organ was entrusted to Messrs. H. S. Vincent and Co., of Sunderland. —*Staffordshire Advertiser.*

ST. CLEER CHURCH, NEAR LISKEARD, CORNWALL.—The Church of St. Cleer was reopened, after complete restoration, on Wednesday, June 29, and the new choir stalls and rood screen were dedicated. The church is, in many respects, interesting from an architectural point of view. The original church was built in the XIIth century, and a fine old Norman door still remains in the north aisle, but the main portion of the building and the tower (which is exceptionally fine) are of XVth century work. The north arcade is of roughly-hewn granite, but the columns of the south arcade are of Polyphant stone, with beautifully-carved caps and moulded bases. The carving is exceptionally well preserved, especially considering the deplorable state in which the church was when it came into the present architect's hands. The floors were very damp and uneven, being laid directly in the ground, the steps broken and patched, and the nave and aisle roof just falling into decay. A wretched deal roof had been put on the chancel in place of the old waggon roof, and high deal boxed pews, facing in all directions, formed the seating accommodation. The present restoration has included the removal of whitewash from the stonework, restoring the nave roof and renewing the chancel roof in oak, with carved angels at the feet of the curved ribs, reflooring the whole church with slate, and wood-block flooring in the nave and black and white marble steps and paving in the chancel and chapel, and a new rood screen right across the nave and aisles, with carved figures complete. The cost of the entire work has been about 2,500*l.* The architect is Mr. Geo. H. Fellowes Prynne, of Westminster, and the builder, Mr. S. Trehane, of Liskeard, Mr. S. Pomeroy acting as clerk of works.

ST. OSWALD'S CHURCH, SHIPTON, GLOUCESTERSHIRE.—The Church of St. Oswald, Shipton Oliffe, has just been reopened after restoration. The work has been carried out under the direction of Mr. H. A. Prothero (Messrs. Prothero and Phillott, of Cheltenham), the contractors being Messrs. Collins and Godfrey, of Cheltenham and Tewkesbury.

CHURCH RESTORATION, PYTCHLEY, NORTHAMPTONSHIRE.—The restoration of the parish church at Pytchley has now been completed. The work has been carried out by Messrs. Norman and Underwood, contractors, under the supervision of Mr. Holding, architect, at a cost of 1,067*l.*

SCHOOL, ALNWICK.—A new school has been erected at Alnwick, from the design of Mr. J. Wightman Douglas, architect, Alnwick.

COTTAGE HOSPITAL, COBHAM.—A cottage hospital is to be erected at Cobham. The plans for the work have been prepared by Mr. F. W. Bedford, architect.

NEW DISPENSARY, NOTTINGHAM.—A new dispensary is to be erected on a site in Gregory Boulevard, Nottingham. The building will comprise a waiting-hall, with consulting-room, operating-room, and dressing and dispensing rooms, with a house for the resident surgeon adjoining. The cost is estimated at from 1,500*l.* to 2,000*l.* Mr. Ernest R. Sutton, whose plans were accepted in competition, is the architect for the work.

CONVALESCENT HOME, ANCOATS.—The new convalescent home, at Sandlebridge, has just been completed in connexion with Ancoats hospital. The buildings have been carried out by the contractors, Messrs. Levi, Brown, and Sons, of Wilmslow, under the supervision of the architects, Messrs. Thomas Worthington and Percy S. Worthington.

NEW FACTORY, BELFAST.—A new factory has been erected for Messrs. Mayrs and Co., Ltd., in Royal-avenue, Belfast. The building is of red brick, and is three stories in height, with a flat roof for the storage and seasoning of timber. The foundations are of concrete. Mr. Allen B. Stokes, C.E., prepared the plans for the work.

EXTENSION OF THE CENTRAL STATION, GLASGOW.—The improvements to the Central Station, Glasgow, have now been completed. The whole of the works of the new extension were designed and carried out under the direction of the Caledonian Railway Company's Engineer-in-Chief, Mr. D. A. Matheson. Mr. G. R. Storrar and Mr. H. Cunningham acted as resident engineers, and Mr. Alexander Grant was superintendent of works. The principal contractors were Sir William Arrol and Co., Glasgow; Morrison and Mason, Glasgow; James Goldie and Son, Glasgow; P. and W. Anderson, Glasgow; the Motherwell Bridge Company; P. and W. MacLellan, Glasgow; William Anderson, Glasgow; John Cochrane, Glasgow; and John Orr and Sons.

KNOX MEMORIAL HALL, MONKSTOWN, IRELAND.—His Grace the Archbishop of Dublin performed the opening ceremony of the Knox Memorial Hall, Monkstown on the 28th ult. The architect of the building was Mr. Millar, the contractor being Mr. T. C. Joly, of Newtown Park, Blackrock. The hall cost nearly 4,000*l.*

DORMAN MEMORIAL MUSEUM, MIDDLESBROUGH.—The Dorman Memorial Museum, Middlesbrough, is situated near the principal entrance to the Albert Park. The building, a square block, is designed upon classic lines, and is placed practically in the centre of a plot of land about an acre in extent. The most important parts of the building are those devoted to the exhibition of the different classes of specimens, the space provided for this object being divided into four rooms or galleries one story in height, opening one into the other; two of these galleries are 60 ft. in length and 25 ft. in width, the other two being about 30 ft. square each. These galleries are all lighted from the top. The roof of the first gallery is domed and lighted by a large lantern; the roofs of the other three galleries are semi-circular. The whole of the roofs are of steel construction. The front part or façade of the building is two stories in height above the ground line, with a basement floor beneath. The main entrance is in the centre of the front, and has a wide approach leading into the hall, about 20 ft. square; from this a corridor runs to the right and left, part of which will be utilised for museum space. On this level is provided the library, the curator's room, a room for hats and coats, and lavatories and other necessary accommodation, and for approach to the basement and the first floor. On the basement level there is provided a room for the preparing of special specimens, with separate access from outside, as well as other rooms for storage and for the purpose of the warming of the building. The whole of the first floor is reserved for museum space, with the exception of the provision of a room, which is intended to be used as a workshop by the curator and his assistants. The building is fireproof throughout, the floors being constructed of concrete, covered with solid wood blocks. It is warmed by open fires and by hot water, upon the low-pressure system, with radiators, through each of which is passed a current of fresh air, which is warmed before entering the several rooms. The surface of the floor of the entrance-hall and lobby adjoining is formed of Italian mosaic pavement. The building throughout will be lighted by electricity. Red brick and terra-cotta has been used. There is an octagonal central tower. The architects are Messrs. J. M. Bottomley, Son, and Wellburn, of Middlesbrough and Leeds. Mr. E. A. Jones has acted as clerk of the works, and Messrs. Allison Bros., of Middlesbrough, have been the builders. The cases have been made by Messrs. Marsh, Jones, Cribb, and Co., of Leeds, from the designs of the architects. The total cost of the museum building, with the site and the several fittings, will amount to between 10,000*l.* and 15,000*l.*

VICTORIA PAVILION, RAMSGATE.—The Princess Louise, Duchess of Argyll, opened the Royal Victoria Pavilion, Ramsgate, recently. The new building has been erected for the Corporation at a cost of 40,000*l.* and occupies a site adjoining the Royal Harbour. It has a frontage to the sands, and covers an area of 4,000 yds. The centre of the interior consists of a hall, 130 ft. long by 65 ft. wide, having a balcony on three sides, and a stage at the west end, with dressing-rooms for artistes and orchestra. The proscenium has a 30 ft. opening. The architect was Mr. Stanley D. Adshead, of Bloomsbury, and the work has been carried out by Mr. F. G. Minter, of Westminster and Putney. In addition to the great hall, at either end are octagons, comprising a tea-room and buffet. Surrounding the central hall, and extending over and beyond the outbuildings, is an upper promenade, about 300 yds. in extent.

BUSINESS PREMISES, WARDOUR-STREET, W.C. —Mme. Sarah Bernhardt laid the foundation-stone a few days ago of the new premises to be built for Mr. W. Clarkson, the wig-maker, on the west side of Wardour-street, near the corner of Shaftesbury-avenue. The new building, which has been designed by

Mr. Horace M. Wakley, will be completed about the end of the year.

THE LEYSIAN MISSION BUILDINGS.—The Prince and Princess of Wales opened, on Monday, the completed portion of the new buildings of the Leysian Mission, City-road. The new buildings have been erected at a total cost of 112,000*l*. The buildings, which have been designed by Messrs. Bradshaw and Gass, and are of fireproof construction throughout, are situated at the corner of City-road and Old-street. They have a frontage to the City-road 182 ft. long, and a total floor area of over two acres. The Queen Victoria hall, which is at present the only completed portion of the buildings, contains seating accommodation for 2,000 persons. In addition to the Queen Victoria hall, there are a small hall and numerous class-rooms for Sunday School work; club-rooms for men, boys, women, and girls, tea and refreshment rooms, and a drill hall and gymnasium. A medical mission is to be conducted in a detached building, and there are other rooms for the administrators of the mission.

BANK, KESWICK.—A new bank has been erected in the High Market-square, Keswick, for the Carlisle and Cumberland Banking Company. The premises have been erected on a site adjoining the old bank, and have a frontage to the street of some 36 ft. The lower part of the elevation is in red stone, and the upper part faced with the green slate stone of the district, with red stone dressings. The roof is covered with red tiles. The building is lighted by electric light throughout. The bronze hinges are from the Keswick School of Industrial Art. The work has been carried out by the following contractors:—Mr. Isaac Hodgson, builder, Keswick; Mr. Chas. Clark, joiner, Keswick; Mr. Thos. Brown, painter, Keswick; Messrs. D. Thomson and Son, plumbers, Carlisle; Mr. C. Greenwood, plumber, Keswick; Mr. J. Armstrong, electrician, Carlisle; Messrs. Cairns and Co., grates, Carlisle. The structure is from the designs and plans, and under the supervision, of Mr. J. H. Martindale, architect, Carlisle, and Mr. W. Wildman acted as clerk of the works.

COUNCIL SCHOOL, LEEDS.—A new school, erected in Argie-road, off Kirkstall-road, Leeds, was opened on the 11th inst. by the Lord Mayor. The school is part of a scheme which will eventually provide accommodation for 1,500 scholars, it being the intention of the committee, at some later date, to erect a mixed school on a portion of the site fronting Kirkstall-road, and to use the present building as an infants' school. For the present, accommodation is provided for 500 children in ten class-rooms, grouped round a central hall, six of which will be used for a mixed school, and four for infants. In addition to the main school a separate building has been erected for manual training, and this will be used as a centre for boys from other schools. The work has been carried out under the superintendence of Mr. W. S. Braithwaite, architect. The total cost of the site was 4,544*l*., and the cost of the buildings, fence walls, and fittings, 9,122*l*.

SANITARY AND ENGINEERING NEWS.

SANITARY CONDITION OF STABLES.—In the annual report by the Liverpool Medical Officer of Health on the health of the City of Liverpool for 1903, attention is drawn to the unsatisfactory condition of stables. The number of visits of inspection made was 4,724. Conditions prejudicial to health were found in stables on account of defective construction, or of improper situation, or from neglect of lighting, ventilation, and cleansing of the stables. Under existing legal powers, great difficulty is experienced in dealing with stables, and complaints are very frequent of nuisances occasioned by the causes indicated, the most frequent, perhaps, being neglect of cleanliness. A large number of stables, it is added, are either so defective, or so little care is taken of them, that the visits of the inspectors are necessary almost every day, in order that they may be under practically constant observation. The Health Committee of Liverpool have endeavoured to procure adequate powers to enable them to make by-laws to deal with stables (*a*) for regulating the lighting, ventilation, cleansing, and draining; (*b*) for regulating the situation and mode of construction of stables to be erected within the city. Such by-laws have now been drafted and approved by the Health Committee.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. T. Martin Cappon, architect (Dundee), has removed his offices from 30, Reform-street, Dundee, to the offices at 32, Bank-street, formerly occupied by the late Mr. W. Alexander, City Architect of Dundee, whose practice he has taken over by arrangement with the Trustees.

THE SLATE TRADE.—The make of slates for 1903 shows an increase, as compared with 1902, of 5,000 tons from slate mines (or underground quarries) and 10,000 tons from open quarries. This is, however, 26,000 tons below the average output of the last ten years. The demand for slates of good quality is brisk, and the increased output will displace an equivalent tonnage of foreign slates.

THE OLD BURLINGTON HOUSE COLONNADE.—In the House of Commons recently, in answer to Mr. MacNeill, who asked what had become of the stone colonnade formerly in front of Burlington House, Piccadilly, and removed by the Department of Works, and why it was not re-erected in one of the parks or elsewhere, Lord Balcarres replied as follows:—The colonnade is lying in Battersea Park; the question of re-erecting it is now under the consideration of the First Commissioner.

THE GUILDHALL LIBRARY, MUSEUM, AND ART GALLERY.—Amongst recent additions to the museum, the contents of which have been rearranged and reclassified, are some remains of the Queen Eleanor cross that stood in West Cheap, opposite Wood-street, and, having been rebuilt in 1441-2 by Lord Mayor John Hatherle, was pulled down on May 2, 1643, by the Long Parliament; relics from the sites of Newgate Prison, Chamberlain's Wharf, and the New Baltic in St. Mary Axe, including a XIVth century stone figure of St. Christopher from the prison site; and the sign of the "Black Boy," from a house in Fleet-lane. The Corporation have purchased the painting, "Mowing Bracken," by Mr. H. H. La Thangue, A.R.A.; Mr. Briton Riviere, R.A., has presented "The Temptation in the Wilderness," now lent to the St. Louis Exhibition; and Mr. George Gilbert has bequeathed twelve oil-paintings and eighty-four drawings in water-colour by his brother, Sir John Gilbert, R.A. A new catalogue of the contents of the museum is now ready, and a large amount of printed books, MSS., and maps and prints has been added to the collections in the library.

NATIONAL HOUSING REFORM CONFERENCE.—A conference, under the auspices of the National Housing Reform Council, was held at Bournville, Birmingham, on Saturday last. Councillor W. Thompson, Richmond, presided. A number of municipalities sent representatives, including, Birmingham, Manchester, Salford, Wigan, Sheffield, Brighton, York, Hull, Leeds, Bradford, and Newcastle-on-Tyne, in addition to the Liverpool Housing Association, the Citizens' Association of Manchester, the Sheffield Health Association, the Local Government Reform League, the Allotments and Small Holdings Association, Durham, the South Staffordshire and Somersetshire Miners' Associations, and other workmen's organisations. The chairman referred to the great death-rate in the large towns, which was due to the want of sunshine and fresh air, and said there was an avoidable death-rate of 100,000 every year, and, in addition, they had the chain of disease and suffering which led up to it. Their desire was to lessen this by creating a more healthy public opinion. He advocated the better planning and healthful development of new housing areas, remarking that, whenever opportunity had been given by the provision of a cheap and frequent system of transit, there had always been a rapid rush of population to districts which had been entirely neglected. The whole of the existing by-laws should be recast and made more elastic and more adaptable to the needs of the different districts. Mr. T. C. Horsfall proposed:—"That this conference respectfully desires to draw the attention of the President of the Local Government Board to the pressing need for (1) such measures as will effectually enable local authorities to secure that all new housing areas shall be planned to ensure an ample provision of light and air space, gardens, etc., thus rendering impossible the development of new slums; (2) increased and more effective powers for dealing with the housing question in rural districts." Mr. Barlow, secretary of the Bournville Estate, seconded the motion, which was passed. Councillor Thomas Shaw, Sheffield, next proposed:—"That this conference, recognising the evils arising from bad housing conditions, desires to draw the attention of local authorities to the great value of the housing powers already possessed by them under the Housing of the Working Classes Acts, 1890, 1900, and 1903, and respectfully urges that these powers should be efficiently and vigorously administered, more especially in regard to Part III. of the Act of 1890, which renders practicable the provision of suitable cottages, without any burden being placed upon the rates." Mr. Kelley, Manchester, seconded the proposition, which was affirmed.

CAPITAL AND LABOUR.

SHEFFIELD BUILDING TRADE DISPUTE.—The dispute in the Sheffield building trade, between the operative stonemasons and the master builders of the city, after lasting for about six weeks, has now been brought to a termination satisfactory to both sides. A conference was held on the 4th inst. at the Building Trades Exchange, Cross Burgess-street, of the executive of the Master Builders' Association, and a deputation from the Operative Masons' Society, augmented by two officials from the parent society in London. At this meeting an amicable settlement was arrived at, and, as the result, work has been resumed. On the two main issues—the question of permitting the introduction of hand-worked or machine-moulded stone in Sheffield, and the binding, as apprentices, of stonemasons' sons—compromises have been effected between the contesting parties. With regard to the former, the original rule governing the trade locally was that "piece-work and sub-contracting shall not be allowed, and no worked stone shall come into the town, except flags, steps, and landings." The master builders wished to amend this, so as to read, "piece-work and sub-contracting shall not be allowed, and no hand-worked or machine-moulded stone shall come into the town, except flags, steps, and landings." The compromise now arrived at decides that no worked or partly-worked stone shall be introduced, beyond stone planed up to the square and champhered coping, except flags, steps, and landings. With regard to the employment of apprentices, the old regulation insisted on boys being bound at the end of three months' employment, but the sons of members of the Operative Stonemasons' Society were exempt from this rule. The master builders sought to place these on the same level as other lads entering the trade. The difficulty has now been got over by a regulation which provides that the sons of stonemasons "may" be bound, thus leaving the matter for individual settlement between the master builder and operative masons whose sons work with them. Of the minor questions of the dispute, the master builders desire that in winter the stonemasons shall commence work at 8 a.m., having previously had breakfast. This has been acceded to by the stonemasons. This brings them into line with other branches of the building trade. The extra ½d. per hour paid to stone-setters, or fixers, which the employers objected to, will remain as before.—*Sheffield Telegraph.*

MASONS' STRIKE, GLASGOW.—The masons' strike has now entered upon its third week, and, judging from present indications, there is little hope of the dispute being settled before the conclusion of the Fair holidays. Some time ago the Lord Provost, Sir John Ure Primrose, suggested that both parties should submit the points at issue to arbitration, on the footing that the men return to work at once at the old rate—9½d. per hour—pending the arbiter's decision. The Masters' Committee are not empowered to act upon the suggestion, but, in acknowledging the Lord Provost's letter, they thanked him for his kindly interest in the affairs of masters and men, remarking that they quite appreciated his hesitancy in moving in a trade dispute. It so happens that many of the masters are on holiday at present, a circumstance which has delayed the meeting to consider his lordship's proposal till July 28. A mass meeting of the men was held in the Albion Hall recently to consider the suggestion. After some discussion, the following resolution was adopted:—"That we, the operative masons of Glasgow and district, beg leave to thank the Lord Provost of Glasgow for the proffered good offices, but we cannot go further in the matter." It may be added that the executive committee of the operatives have decided to pay strike money to the men signing the roll throughout the holidays.—*Glasgow Herald.*

Legal.

PATMAN AND FOTHERINGHAM *v.* PILDITCH.

IN this case, which was not reported in detail in our columns, the plaintiffs entered into a contract for the erection of a block of flats in Southampton-row, W.C., the contract (which was in accordance with the form authorised by the Institute of Architects) stated that the works were to be done according to the plans, specification, and bills of quantities. The plaintiffs found discrepancies in the quantities, and sued the defendant for the amount of such deficiency, upon the ground that the bills of quantities formed part of the contract, and that, consequently, they were entitled to be paid for the work shown on the plans and specification, although not fully

taken in the quantities. The defendants raised the defence that the bills of quantities did not form part of the contract, but the judge gave a verdict in favour of the plaintiffs (Messrs. Patman and Fotheringham, Ltd.), and upheld their claim. As the point decided is one of importance to building owners and contractors, we think it well to put on record the judgment of Mr. Justice Channell, which was as follows:—This matter is, of course, one of considerable doubt upon the construction of this contract. The bills of quantities are incorporated into this contract in an unusual manner. I have been referred to a statement of the Master of the Rolls, in which he says, dealing, I think, with the ordinary case of a bill of quantities, that it is well understood, and that it had been settled in more than one case, that this document, the bill of quantities, where it was embraced in, and made part of, one of the other documents, whether by being in the specification or by being scheduled to the contract, or as a separate document altogether, was not, and was not intended to be, a representation to be acted on in the sense of being a warranty. Now, as regards all the instances which the Master of the Rolls gives, except as to being introduced into the contract, that, of course, is all perfectly clear. He speaks, in general words, of it being introduced by, amongst other things, a schedule to the contract. He does not say in the contract itself; and if it is introduced into the contract itself, it seems to be perfectly obvious that the operation of it depends upon the mode in which it happens to be introduced into the contract. Because it is perfectly possible, although a thing is a bill of quantities, and has been prepared as a bill of quantities, for the ordinary use of a bill of quantities, still it is possible, if the people like to incorporate that into their contract as a description of what the work is that is contracted to be done, they can do it, and, therefore, if you find it in the contract, you have got to construe the contract simply so, and say what it means; and, in this case, as in almost any other case, if one has got to deal with the way in which the courts have construed other and different contracts from the one in question, it does not afford very much help. I suppose everyone understands by this time what a bill of quantities is, and how it comes into operation. It is prepared, as a rule, by some independent person who, under a special arrangement that is made in such matters, takes the place of the builders' clerk, and if there were no such thing as making out a bill of quantities when the plans were submitted to tender, each builder would have to do it himself and have to pay his own clerk for doing it; but, for general convenience, it is done in a different way, and that man whose services, rendered before the builder knows anything about it, are adopted by the builder in each particular case, stands very much in the same position—in fact, in quite the same position as if he had been originally employed by the builder to take out the quantities for him himself, although he has been employed by somebody totally different. In this particular case, the gentleman who is entering into this contract for the building to be built for him, is himself an architect. He was the architect in regard to this building, and the printed form is altered therefore from the architect engaged by the employer to the architect and employer, and, in some respects, the contract was a little bit anomalous. It does happen that he had prepared in his own office these bills of quantities; so that, it being done by him through his clerk, it is the same thing as if it had been done by himself, and I think it applies, for this purpose, to totally different characters. He is a contracting party. Also, he is the quantity surveyor. As a contracting party he has certain liabilities, and as quantity surveyor he would take other liabilities; and certainly, if, as quantity surveyor, there was negligence in the preparation of these quantities in that capacity, either in this action, if it is properly planned (I am told there is something to be said in reply to that), or in some other action which should be properly framed; that is if, in his capacity of quantity surveyor, he has been guilty of negligence, he will be liable, of course, for that negligence. There is no difficulty about that cause of action. The real difficulty is the main cause of action, if not the only cause of action, is set up in these pleadings, and that is the cause of action against him as contracting party. Now, as to that, we have got really to see what is the true meaning of this contract so far as regards what is the contract or work which there is a contract to do for the 17,000*l*. As a general rule, of course, the contract work is described in plans and a specification. The bill of quantities is the estimate made by some outside person as to the quantity of work which those plans and specifications show, and, assuming that it is properly done, the works described in the bills of quantities and the works described in the plans and specification would be identical. In this case the suggestion is, and, for the purposes of argument only, has it been admitted, that they are not identical, and that there were very large discrepancies between the bills of quantities which were, in point of fact, made out, and what ought to have been the true bills of quantities upon the contract plan.

Now, those being the facts, the contract is entered into in this shape. The contractor will substantially complete, etc., for the sum of 17,000*l*., the several works required to be done in the erection of a block of flats on a site.

If it had been kept there it would have been, of course, absolutely and entirely indefinite. The next sentence is, "in a good, sound, lasting, and workmanlike manner." That is the manner, and we have not yet got the particular description turning the indefinite block into some definite amount of contract work. Then it says, "According to the plans, invitation to tender to specification and bills of quantities signed by the contractors." Now, "signed by the contractors" grammatically, and, in fact, in this case no doubt applies to all the things, although I do not suppose the invitation was signed by the contractor. It may have been. But the plans were signed by the contractors. The specification was signed by the contractors. The original bill of quantities was not signed by the contractors; but the priced bill which he gave in was. I think, therefore, that those bills of quantities signed by the contractors mean the priced bills of quantities.

Now, the question is that, following those words, "according to the plans, invitation to tender, and specification, and bills of quantities," that is, following upon an indefinite description of the work to be done, you must find the description of the work that is to be done, the thing that turns a block of flats indefinite into some definite block of flats; you must find that, somewhere or another, in these words that follow, "the plans, invitation to tender, specification, and bills of quantities." But also we have, in these four documents, to find the mode of doing the work, because that has come just before in "a sound, lasting, and workmanlike manner," according to these documents. So that you would expect these four documents would do two things:—(1) Define what the work that has to be done is, and turn the indefinite "a block of flats," into the definite block of flats; and (2) would also contain the instructions as to the mode in which the work is to be done. You would expect to find both of those somewhere or another in the four documents. Now, are you to say that some are to be looked at for some matters, and some for others, or are all of them to be looked at for both purposes? I think if there is anything material in any one of them for either of the two purposes, you must look at it for that purpose as well as for the other; that is to say, you must look at both. So far as they have got anything material to both purposes you must look at them for both purposes to define the work, and also to show the mode in which it is to be done. Now, for which purposes are you to look at the bills of quantities? The bill of quantities is the document which specially says, when you have got it incorporated like this, what the quantity of the work is to be. Mr. Lawrence's argument is that I must deal with it in the same way as in any contract, or anything else we have to construe; that is to say, you deal with the specific things as over-riding the general ones and governing them, just as even, I think, without a clause to that effect in a contract you would say that figured dimensions over-ride some dimensions arrived at by taking the scale. Now, I think that there is great doubt about the way in which one looks at it, but on the whole, I cannot help feeling that Mr. Lawrence is right in saying that, if it was merely wanted to introduce bills of quantities for the purpose of showing the way in which the extras were to be priced, that had already been sufficiently done by clause 17, and that it was unnecessary to introduce the words, "bills of quantities" in the way in which this was done, unless it was intended to make that as the other documents with which it is coupled are a part of what the contract work was, and turning the indefinite block of flats into some definite amount of work. I confess that it is not the first time one has had experience of these building contracts, and I have always taken the view that, when the bills of quantities were introduced (and I have seen one or two cases of that sort) in this particular way, and made part of the contract, it is for the express purpose of varying the usual effect of those bills of quantities, making them part of the contract instead of a mere estimate of what it is. My view, therefore, not arrived at by any means without doubt, is that here, so far as the the bills of quantities and the plans can be put together and looked at as a thing in accordance generally with the plans, and with the quantity of work shown in the quantities, so far as that thing is possible (and I take it that it is in these matters), my view is that then the quantities provide the amount of the work, and, if in the course of doing the work the contractor is directed to exceed that amount of work for the purpose of making it accord with what it is desired to have in regard to the building, I think that then that is all extra, subject, of course, to the further things in the contract as to the mode in which it is to be done, and so on.

I think, therefore, on the whole, that it is incorporated into this contract as a part of the description of the contract work, and that, therefore, apart from any question of negligence which there might possibly be, and which would have to be dealt with in a different shape, as I have said before, if the facts for that purpose only are admitted, the plaintiff is necessarily entitled to something beyond what he has been allowed.

I say, therefore, that my judgment, subject, of course, to the reference, will be on the construction of the contract for the plaintiff. My view is that the whole of the quantities are introduced into this contract as part of the description of the contract work, and that, therefore, he is required, in order to complete the work, to do more work than is in the quantities, he is entitled to have that as an extra.

POINT UNDER THE LONDON BUILDING ACT, 1894.

THE hearing of the case of the London County Council *v.* Davis concluded, before a Divisional Court of King's Bench, composed of the Lord Chief Justice and Justices Kennedy and Phillimore, on the 12th inst., on the appeal of the London County Council from a decision of a Metropolitan police magistrate, under section 7 of the London Building Act, 1894.

Mr. Horace Avory, K.C., for the London County Council, said the question in this case was whether the respondent had formed or laid out a street within the meaning of the London Building Act. The magistrate had formed, or expressed an opinion, that the place in question was a market or bazaar, and therefore not a street within the meaning of the Act. Counsel said there was nothing in the Act about a market or bazaar. The point in the case was whether, it being a market or bazaar, prevented it being a street. In 1902 the respondent pulled down some old houses in Morgan-street, Commercial-road, and erected a large block of buildings, in the centre of which was a number of small shops. There were various entrances to them. The magistrate held that it was not a place for foot traffic within the meaning of section 7 of the Act. He was also of opinion that the shops formed a market, and not a street, within the meaning of the Act, and he dismissed the summons. The learned counsel contended that it was a street within the meaning of the Act, just the same as the Burlington Arcade was a street for foot traffic.

Mr. Macmorran, K.C., having supported the decision of the magistrate,

Mr. Avory asked the court to find that the magistrate should have found that the place was a new street, and should have imposed a penalty.

The Lord Chief Justice, in giving judgment, said that the place was commenced to be laid out as a new street about June 22. The place was about 20 ft. wide, and there were fifty-five places of business on one side and thirty-four independent shops on the other side. There were six or seven different modes of access to the buildings. Under all the circumstances, he had come to the conclusion that the magistrate had applied a wrong test. It was not a question whether a market had been established, but whether the respondent had laid out a place where people went in and out to those shops. He thought, on these facts, there was a commencing to lay out a new street in June. The place did not cease to be a street because it was used as a market.

Justices Kennedy and Phillimore concurred, and the appeal was accordingly allowed, the case being sent back to the magistrate.

POINTS OF LAW UNDER A BUILDING CONTRACT.

IN the Chancery Division, on the 5th and 6th insts., Mr. Justice Farwell had before him the case of Sharpington *v.* the Fulham Board of Guardians on two preliminary points of law raised by the defendants.

In this case the plaintiff, a builder and contractor, entered into a contract to convert a private house at Parson's Green, S.W., into a house for the reception of pauper children under the charge of the defendants. The contract price was 4,599*l.*, but this sum was afterwards increased. The contract contained a clause for the reference of disputes to arbitration. The work was completed on May 3, 1901. The plaintiff's case was that the work was delayed for thirty-six weeks beyond the contract time by reason of the defendants' acts, and owing to alterations and changes made by the defendants, and that, in consequence of this, he (plaintiff) had incurred considerable expenses over and above the amount of defendants' architect's certificate. Plaintiff accordingly made an additional claim for 1,357*l.* Defendants disputed this claim, and the matter was referred to arbitration on November 25, 1902, the demand for arbitration being made in April, 1902. The two points of law raised by the defendants were, first, that the action would not lie under the Public Authorities' Protection Act, 1893, as the plaintiff had not commenced proceedings within six months after the acts or default complained of, nor within six months next after the ceasing thereof. The second point was that if any debt or claim was lawfully incurred by the defendants to the plaintiff in respect of the plaintiff's claim, the same was incurred or became due on or before May 3, 1901, the date of the completion of the contract, and was not paid within the half-year in which the same was incurred or became due, nor within three months after the expiration of such half-year, the commencement of such half-year being reckoned from March 30, 1901, the time when the last half-year's account was, or should have been, closed according to the order of January 14, 1867, of the Poor Law Board, and that the same could not now be paid by the defendants under the Boards of Guardians (Payments of Debts) Act, 1859.

After hearing the arguments of counsel, his lordship held that the defendants' contention on both points failed. On the first point he said that the public duty in the present case was to supply a house for the reception of poor children. A breach of duty would be an injury to the poor children of the neighbourhood. The defendants had to alter the house, and they entered into a contract, and the complaint was by the contractor as a private individual of injury to himself. It was not an action in the name of the poor children of Fulham. Therefore, the defendants' contention on that point failed.

On the second point, the defendants' contention also failed, as the amount to be paid by the defendants in the present case could not be ascertained until the arbitrator had given his decision.

Mr. Upjohn, K.C., and Mr. Beddall appeared for the plaintiffs, and Mr. Butcher, K.C., and Mr. A. A. Hudson for the defendants.

CASE UNDER THE PUBLIC HEALTH ACT, 1875.

THE case of Harris and others *v.* Scurfield came before a Divisional Court of King's Bench, composed of the Lord Chief Justice and Justices Kennedy and Phillimore, on the 11th inst., on appeal from a decision of the Justices of Sheffield.

From the special case stated it appeared that the respondent, the Medical Officer of Health of Sheffield, had preferred an information against the appellants alleging that a nuisance arose from defective surface channels at Nos. 7 to 25 in No. 1 Court, Eyre-lane, Sheffield, and that that nuisance was caused by the default of the appellants, and had not been abated after notice given. The short facts were these:—Appellants owned eighteen houses, Nos. 7 to 25, in No. 1 Court, Eyre-lane, Sheffield. The houses were back-to-back houses, and Nos. 7 to 13 formed part of a block, and Nos. 14 to 25 were in one block. Nos. 7 to 13 faced Nos. 14 to 19, and between them was an open space of ground with a pavement on either side. Nos. 20 to 25 of the houses faced the boundary wall on the south-east side of the court, and between them and the boundary wall was also an open space of ground, with a pavement on the side thereof. The main entrance to the court was from a partially-enclosed space of ground, to which an entrance was obtained from one of the main thoroughfares. The court could also be entered by two narrow passages made between Nos. 7 to 13 of the houses. The surface channels were open, and not enclosed or covered in any way, and the slop water from the sinks of each house was carried by a separate channel cut in the pavement at right-angles to each house. There was, therefore, a separate cross-channel for each house, and a number of the cross-channels drained into each side-channel, and the drainage was by these side-channels into two gullies in the court, and from there into the main sewer outside of the court. The use of the side-channels and cross-channels constituted a nuisance within the meaning of the Public Health Act, 1875. The Medical Officer of Health contended that each of the side-channels and cross-channels was a drain, as defined by the Act of 1875, as all the houses were premises within the same curtilage. He contended, therefore, that appellants were bound to do the work required by the notice. The appellants, however, contended that each of the side-channels was a sewer under the statute, as each was used for the drainage of more than one building, and that the premises were therefore not within the same curtilage. The Justices held that the side-channels were drains, and not sewers, and that the houses drained were premises within the same curtilage. Hence the present appeal.

At the conclusion of the arguments of counsel, the Lord Chief Justice, in giving judgment, said that the decision of the Justices could not be supported. No authority had been cited which showed that a curtilage would include this kind of combination of houses. No definition of a curtilage existed which would cover the case of a number of houses separately occupied by different people, simply because there was a common access and, to a certain extent, accommodation. He was of opinion that these houses were not houses within the same curtilage, and the appeal must be allowed with costs.

Mr. Justice Kennedy and Mr. Justice Phillimore concurred.

Mr. Danckwerts, K.C., and Mr. Beddall appeared for the appellants, and Mr. Montague Lush, K.C., and Mr. Waddy for the respondent.

LIABILITY FOR PAVING, ETC., CHARGES.

IN the Court of Appeal, composed of the Master of the Rolls and Lords Justices Stirling and Mathew, on the 7th inst., judgment was delivered in the case of the Mayor, etc., of Hackney *v.* the Lea Conservancy Board, on the plaintiffs' appeal from a judgment of Mr. Justice Wright in the King's Bench Division.

The action was brought by the plaintiffs to recover from the defendants 300*l.* 2*s.* 6*d.*, the amount apportioned on the defendants in respect of paving and other expenses in making good a new street, known as Maiwand-road, Clapton Park, in the Borough of Hackney, it being alleged that the defendants were liable for this amount as the owners of a strip of land bounding or abutting on that road, and forming part of the Hackney Cut navigation of the river Lea. The only question on the appeal was whether the defendants were the owners of this strip of land within the definition in section 250 of the Metropolis Management Act, 1855. Mr. Justice Wright held that the defendants were not the "owners" within the meaning of the section, inasmuch as they held the land "as trustees for public purposes, inconsistent with the land being rack-rented as between landlord and tenant." Therefore, the question was whether the conditions under which the defendants held the land in question were such as to support the learned judge's conclusion. The Maiwand-road was built upon only on the side furthest from the river Lea. The land in question, which bounded the side of the road opposite to that on which the buildings were, was a retaining bank for the purpose of strengthening the bank of the Hackney Cut, and was about 26 ft. wide at the base. No houses were built upon this land, the trustees (the Lea Conservancy Board), under their powers, having purchased the land in 1849 for the purpose before stated, and it was used for that purpose and for no other purpose.

Their lordships held that there was sufficient evidence to show that the embankment, without impairing its efficiency as a protection to adjoining lands, might be made the site of a building, or might in other ways be turned to profitable account in connexion with the defendants' business. They accordingly held that the defendants were liable for the expenses, allowed the appeal, and entered judgment for the plaintiffs for the amount claimed with costs.

Mr. Macmorran, K.C., and Mr. Beven appeared for the appellants, and Mr. Horace Avory, K.C., and Mr. E. Morten for the respondents.

NEW MARKET HALL, LEEDS.—The new market hall at Leeds was recently opened. The building has been erected from the designs of Messrs. Leeming and Leeming, architects, of London, at a cost of over 110,000*l.* Mr. J. T. Wright was the principal contractor for the work, and Mr. James Reid was the clerk of works.

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

13,315 of 1903.—J. and E. BATES and SONS, LTD., and A. J. BATES: *Joints of Sheet Metal Hinges.*

Hinges are usually made from a flat blank, the joints of which are formed by rolling or turning. This invention has for its main object the strengthening of the joints, which is effected by forming between a pair of dies a corrugation or reed, or a series of corrugations or reeds running along the joints, which are then rolled on and form corrugated or reeded joints which strengthen them in the weakest place, and also enhance their appearance.

14,367 of 1903.—F. L. KEPPLER: *Sash or Glazing Bars.*

A sash or glazing bar for glass roofs, and the like, wherein the bar proper is of approximately M-shape in cross-section, its upper flange being formed with four thin ribs for providing cement and screw grooves, and the lower horizontal flanges with two thin ribs for providing water gutters, said lower flanges being connected with two thin webs.

15,711 of 1903.—W. BERNSHAW, P. UELLENBERG, and A. UELLENBERG: *Door Locks.*

This relates to door locks, and consists in the construction of the locking bolt, so that in its opened position it projects into the staple plate, and the staple plate provided with recesses or openings so as to allow the bolt to enter therein or be withdrawn therefrom in its opened position, while one or two catch-pins, held in position by spring pressure, hold the bolt fast and the door shut, so that it can be only opened by a certain pressure exerted against it, whereas the bolt and the door can be locked totally by pushing forward the bolt by a key, so that its front end projects beyond said openings or recesses in the staple plate, into an opening provided for this purpose.

16,699 of 1903.—F. H. SHORLAND: *Chimney and Ventilating Cowls.*

A chimney and ventilating cowl, for application to the outlets of ventilating shafts, chimneys, and the like, consisting of an internal shell with radial outlets, radially projecting plates, and radial shield plates, with contracted outlets arranged at each side of the outlet plates to act as baffle plates against the ingress of air.

16,879 of 1903.—J. A. GEE and J. W. BOWLEY: *Plug for Wedging into Walls, and for other purposes.*

A wall or the like plug, provided with a saw cut extending from its rear towards the front end, consisting of a binding ring at the front solid end of the plug, and a wedge-shaped piece of equal or greater length adapted to expand and compress the plug at the rear end, and to cause compression at the front end, so that the latter presents a comparatively solid compressed face.

17,403 of 1903.—C. SMITH, SONS, and Co., LTD., and J. F. MOORE: *Spring Roller Stops for Doors.*

A spring roller stop for doors, consisting in the combination of a bridge piece, adapted to be fixed in a mortice in the bottom of a door, a fork piece carried by said bridge piece, and adapted to slide up and own, a spring which presses the fork piece downwardly, a cross-pin and roller carried by said fork piece, said roller projecting for a certain distance below the base of the bridge-plate to ride over the stop-plate fixed on the floor.

17,658 of 1903.—J. JUDD and J. G. CRAIG: *Domestic Fire Escapes.*

A domestic fire escape, having a rope carriage, consisting of a cross piece, through which a rope is adapted to pass, a hinged front to enable the rope to be readily inserted, and a brake adapted to act on the rope.

17,954 of 1903.—A. J. POLLOCK: *A Toilet Cabinet applicable to Bathrooms, and the like.*

A toilet cabinet, consisting in the combination of an upper ventilated compartment, the door of which is provided with a mirror, said compartment adapted to hold tooth brushes, and other toilet requisites, and a lower compartment provided with drop lid, and adapted to hold brushes and combs.

26,161 of 1903.—G. SCHWARZ: *Construction of Baths to Facilitate the Heating.*

This relates to the construction of baths to facilitate the heating of the water, with the effect that the heating gases act directly through the casing of the bath on the water.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

The invention consists in the provision of heating channels or flues around the bath for this purpose.

2,245 of 1904.—J. POLLOCK: *The Adjustable Attachment of Handles or Knobs upon their Spindles.*

This consists in the combination or arrangement and use of means for adjustably attaching handles or knobs to spindles, comprising an internally threaded longitudinal hole in the spindle, a bushed and shouldered channel through the knob or handle, and screw threaded to engage the thread of said hole, and provided with a head fitting the larger diameter of said channel, and resting on the shoulder formed therein, and a plug closing said channel and hiding the screw.

6,969 of 1904.—P. BILLARD: *Manufacture of Imitation Ornamental Ceramic Tiles, Slabs, and the like.*

Tiles, slabs, and the like, formed of sheets of celluloid ornamental paper and plaster, cement, or the like, and in which the folded edges of the said sheets of celluloid and ornamental paper are fastened or embedded in the plaster or cement mass.

7343 of 1904.—F. NUSCH (Westeutchen Thomas-Phosphat-Werke G.m.b.H): *Asphalt Compositions for Floors, and the like.*

A process for the manufacture of an asphalt-like floor covering, characterised by the fact that powdered slag is mixed with the melted asphalt composition in such a way that the fatty substances in the latter will admit of it, and in that proportion which is necessitated by the degree of viscidity required, whereupon such binding materials as tar, resin, oil, and the like, are added in order to enhance the receptability of the powdered slag, the rest of the process then being carried out in the usual manner, the usual filling materials such as sand, gravel, and the like, being also employed if necessary.

8,328 of 1904.—W. EMOND: *Window Holders and Fasteners for Sliding Sashes.*

This consists in the combination with a rack bar, of a housing having a shaft mounted therein, one portion of the shaft being round in cross-section, and the other portion square in cross-section, a pinion mounted upon the round portion of the shaft and adapted to engage the rack bar, a disc mounted upon the square portion of the shaft, the opposing face of the pinion and disc being radially corrugated, and a spring for holding the said corrugated faces in engagement.

9,955 of 1904.—W. SPROWSON: *Safety Gear for Lifts.*

Safety gear for rope-suspended carriages of lifts, which consists in arranging each suspension rope to descend towards the carriage, pass round a pulley or pulleys on the carriage, and ascend again, and attaching two guy ropes to each of the suspending ropes, the other end of these guy ropes being coiled round a shaft in such a manner that, when one of the vertical lengths of the aforesaid suspending rope breaks, the carriage will tend to move downwards relatively to the intact vertical length of the suspending rope, so that one of the guy ropes will be put in tension and will rotate the shaft on which it is wound, and by these means bring cams, pivoted to the carriage, to bear on vertical posts or guides so as to brake or stop the downward motion of the carriage.

10,196 of 1904.—K. RODELSTAB: *Contrivance for the Secure Shutting and Better Cleaning of Skylight Windows.*

A contrivance for the secure shutting and better cleaning of skylight windows, consisting in the combination of a hinge axle having shoulders and rods connected at their inner tie holes with said axle, and rods detachably connected at their upper ends with the window, and at their lower ends joined to foregoing rods at the point of junction with a slide bolt fitting, having a jacket in which a slit is cut with a notch cut in such slit, and a bolt having a headed handle, and sliding in said jacket.

10,197 of 1904.—K. RODELSTAB: *Adjusting Lever Appliance for Operating Skylight Windows.*

An adjusting lever appliance for opening, fixing, and closing skylight windows, consisting in the combination of an adjusting lever having a fixed pivot whereon a draw-rod is swivelled, and a combined slot with a fixing plate having a fixed pivot, a shoulder at right-angles, and a combined slot.

10,650 of 1904.—F. W. BLAKESLEE: *Building Blocks.*

A building block, having a pair of longitudinal grooves or openings which extend beyond the middle of the block, and thereby overlap one another, one of the grooves or openings intersecting the top of the block, and terminating short of the bottom, and the other intersecting the bottom, and terminating short of the top of the block.

10,747 of 1904.—R. BAXTER: *Sash Fasteners.*

A sash fastener, comprising a catch, consisting of a horizontal portion provided with a bevelled end, and a second lighter portion at an obtuse angle with the first portion, a base, a pivotal connexion between the catch and the base near the angle between the respective portions, and a wedge hinged to the end of said second portion extending from said end to said base.

10,974 of 1904.—A. FAHRMANN: *Mixing and Sorting Apparatus for use in the Manufacture of Bricks or the like.*

A mixing and sorting apparatus, particularly applicable for brick manufacture, comprising a receiving vessel, an end plate provided with perforations or openings for the discharge of the material treated, and a cam rotated in the interior of the apparatus and mounted in a spindle therein.

11,218 of 1904.—C. WULF: *A Process for the Manufacture of Floor Covering.*

A process for the manufacture of floor covering, according to which strips of thin absorbent paper or other suitable material are first saturated with oil colour, then dried, and afterwards painted on one side with the same colour.

15,653 of 1903.—H. PARKINSON: *Appliances for Drying, Mixing, and Preparing Tar Macadam.*

According to the invention, the appliance comprises concentric cylinders, constituting a steam jacketting, within which is another cylinder, the internal surface of which is provided with spaced vanes or blades, arranged at such distances apart, and at such angles that, when the interior cylinder is, by gear wheels, worm, or like mechanism, caused to revolve, the napping will, by the vanes, be gradually worked towards and out at the opposite end of the cylinder to which they were introduced, and thereby the tar applied to the nappings is equally distributed, and the nappings are equally coated by the tar, and as the vanes or blades do not revolve, save as part of their carrying cylinder, there is no liability of wedging, as is the case when worms or screws are employed for passing the nappings through a cylinder or mixer, and the steam jacketting ensures economical and uniform application of heat to the interior cylinder, and is more convenient than application of heat from a fire direct to the mixing cylinder as heretofore practised.

16,412 of 1903.—T. WINSTANLEY: *Process of, and Machines for, Preparing Lime and Portland Cement.*

According to this invention, the lime in its caustic state is placed upon trays, and a number of such trays are jointed together so as to form an endless travelling tray conveyor. At the commencement of operations a suitable quantity of lime is placed on a tray, upon this water is sprinkled, and starts the slaking of the lime, the tray conveyor is then moved a short distance, thus bringing an empty tray to be treated in the same way as the previous one, and so on with successive trays, this process of slaking and conveying thus becoming continuous.

17,706 of 1903.—H. H. LAKE: *Construction of Beams or Girders* (H. Ballinger).

A concrete beam, provided with an iron or steel insertion, characterised by the fact that the insertion presents its greatest cross-section at that part of the beam at which the prevailing strain is greatest.

22,026 of 1903.—H. S. C. GREATOREX: *Plaster Slabs or Blocks for Walls, Partitions, Buildings, and the like.*

Building blocks or slabs having one or more openings passing through them. In such openings or passages a short distance from the top of block, the horizontal length of the passages is somewhat greater than for the remainder of their depth, so that a narrow ledge is formed, upon which may be supported the ends of strips of wood or other suitable material in order that grouting or liquid cement, when poured in passages, may not pass further down. The blocks have at each vertical edge half of a similar opening to those just described, so as to form, when placed against the vertical edge of a similar block, a complete opening similar to those already described as passing through the blocks.

1,893 of 1904.—G. H. DUNLOP: *Method and Machinery for Excavating, Dredging and Transporting Earth, and other materials.*

A method for excavating, dredging, and transporting earth, and other materials with a scoop, operated by three ropes from a main power-station, and an outhaul-station, combined in one structure so that earth may be filled into the scoop by hauling it forward, transported in it by hauling it backward and deposited from it by overturning it forward.

8,005 of 1904.—G. C. SAVAGE: *Furnaces, Stoves, and Fireplaces.*

An air-feeding structure for furnaces, consisting of a casing having a partition extending substantially parallel to the front and rear walls of said casing, and dividing the same into air-feeding conduits, one of said conduits having inlet for air for primary combustion, and opening downwardly into the space below the bottom of the other conduit, and the other conduit opening near the top of the casing, a passage for admitting air to the latter conduit, said conduits being so disposed that air for supporting primary combustion is drawn downwardly and discharged into the ash-pit below the grate-bars, and the air for supporting secondary combustion is discharged into the fireplace above the burning mass of fuel.

10,139 of 1904.—E. R. PALMER: *Sanitary Inspection Chambers.*

A sanitary inspection chamber for sanitary purposes, composed of a series of superposed chamber sections of cast metal or earthenware, connected together by watertight joints, the necessary junctions and channels being cast or moulded in the bottom section.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

June 28.—By P. & G. GEEN.

Southwark.—6, Lant-st., l., w.r. 32*l.* 10*s.*	£505
Walthamstow.—26 to 48 (even), Waverley-rd., u.t. 93½ yrs., g.r. 60*l.*, w.r. 358*l.* 16*s.*	1,760
2 to 28 (even), Borwick-av., u.t. 93 yrs., g.r. 70*l.*, w.r. 416*l.* 18*s.*	2,120
Wimbledon.—1A, 2, 5, and 6, Southdean-gdns., u.t. 94 yrs., g.r. 26*l.* 10*s.* y.r. 155*l.*	1,480
23, 29 to 32, Southdean-gdns., u.t. 95 yrs., g.r. 35*l.*, y.r. 178*l.*	1,825

By ROGERS, CHAPMAN, & THOMAS.

Brompton.—105, Highfield-rd., u.t. 48 yrs., g.r. 8*l.*, w.r. 76*l.*	305

By F. WARMAN.

Holloway.—158, Brecknock-rd, u.t. 38 yrs., g.r. 8*l.*, e.r. 52*l.*	300
Highbury.—42, Highbury New-pk., u.t. 45½ yrs., g.r. 25*l.* 10*s.*, e.r. 105*l.*	600
Canonbury.—30, Douglas-rd., u.t. 42 yrs., g.r. 7*l.*, e.r. 70*l.*	850

By HAMPTON & SONS, with EGGINTON & SON (at Ascot).

Ascot, Berks.—Windsor-rd., a freehold building site and plot adjoining, 1 a. 2 r. 32 p., f...	450
Windsor-rd., a freehold cottage and 1a. 0r. 17p.	350

By FLICK & SON (at Halesworth).

Laxfield, Suffolk.—"Sancroft Manor Farm," 47 a. 3 r. 11 p., f....	700

By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern).

Edgware.—High-rd., the "Bald Face Stag" p.-h., area 1¼ acre, f., with goodwill	9,210
Hounslow.—High-st., the "Nag's Head" p.-h., f., with goodwill	4,100
High-st., a freehold block of land, with buildings thereon, area ¼ of an acre	1,080

By S. & G. KINGSTON (at Spalding).

Deeping St. Nicholas, Lincs.—A freehold farm, 154 a. 0 r. 35 p., p.	5,000
A freehold farm, 140 a. 0 r. 21 p.	4,040
Bourne, Lincs.—A copyhold farm, 36a. 1 r. 24p.	1,000
Moulton, Lincs.—A freehold farm, 109 a. 1 r. 18 p.	3,020

June 29.—By EASTMAN BROS.

Forest Hill.—54, Brockley-rise, u.t. 66 yrs., g.r. 7*l.* 10*s.*, e.r. 48*l.*, also a plot of land adjoining, f.	480

By HEDGER & MIXER.

Wembley, Middx.—"Preston Farm," 76 a. 0 r. 19 p., f., y.r. 160*l.*	5,550

By T. D. PEACHY.

Regent's-park.—74, Delancey-st., f., e.r. 60*l.* .	91
Islington.—Dorset-st., l.g. rents 66*l.*, u.t. 16 yrs., g.r. 36*l.*	305
Haverstock-hill.—18, Maitland Park-rd., u.t. 47½ yrs., g.r. 5*l.*, e.r. 48*l.*	440

By E. & S. SMITH.

Gray's Inn-road.—Nos. 362 and 364, also 2, 4, and 6, St. Chad's-pl., area 3,135 ft., f., y.r. 172*l.* 4*s.*	2,450
Streatham.—87, Hopton-rd., f., e.r. 50*l.*	500

By C. SPARROW & SON.

Finchley.—7, Torring-ter., f., e.r. 40*l.*	520

By THURGOOD & MARTIN.

Chelsea.—19, Moore-st., u.t. 38½ yrs., g.r. 8*l.*, y.r. 50*l.*	740
Paddington.—Craven-hill, l.g.r. 35*l.*, u.t. 30 yrs., g.r. 5*l.*	430

By ROBERT TIDEY & SON.

Highbury.—9, Crane-gr., u.t. 28 yrs., g.r. 3*l.* 10*s.*, y.r. 35*l.*	235
Mile End.—Venour-rd., f.g.r. 15*l.* 15*s.*, reversion in 71 yrs.	380

By F. VARLEY & SON.

Finsbury-park.—84, 86, and 88, Moray-rd., u.t. 60 yrs. g.r. 15*l.* 15*s.*, y.r. 108*l.*	1,000

By G. B. HILLIARD & SON (at North Weald).

North Weald, Essex.—A freehold house and 4 a. 0 r. 11 p.	600
An enclosure of pasture, 6 a. 0 r. 2 p., f.	300

June 30.—By ERNEST J. GALE.

Tillingham, Essex.—"The Limes" and 6 acres, f., y.r. 76*l.* 13*s.*	1,050

By HOOKER & WEBB.
Hammersmith.—11, The Grove, u.t. 40 yrs., g.r. 5*l.*, y.r. 40*l.* £410
Worth, Sussex.—"Little Gibbshaven Farm," 8 a. 3 r. 36 p., f., y.r. 20*l.* 700
Caterham Valley, Surrey.—"St. Albans," f., y.r. 33*l.* 375

By C. C. & T. MOORE.
Mile End.—41 to 49 (odd) Canal-rd., 59 to 73 (odd), Bridge-st., area 13,250 ft., f., e.r. 415*l.* 3,200
Commercial-road East.—100 to 122 (even), Lucas-st., u.t. 17½ yrs., g.r. 145*l.*, w.r. 530*l.* 8s. 1,250
Bethnal Green.—39 and 41, Cranbrook-st., u.t. 50 yrs., g.r. 4*l.*, w.r. 62*l.* 8s. 520

By OGDEN, SONS, & OLLEY.
Wimbledon.—23 and 25, Princes-rd., u.t. 89 yrs., g.r. 14*l.*, y.r. 76*l.* 700

By J. C. PLATT.
Kensington.—96, Edith-rd., u.t. 71 yrs., g.r. 10*l.* 10s., e.r. 60*l.* 375
Clapham.—50 and 52, Santley-st., u.t. 71 yrs., g.r. 12*l.*, w.r. 87*l.* 6s. 640
New Cross.—148, New Cross-rd. (s.), f., y.r. 42*l.* 750

By SMALLPEICE, ALLEN, & Co.
Putney.—141 and 143, Disraeli-rd., f., y.r. 62*l.* 975

By PHILIP STOCK.
Wandsworth.—32, Geraldine-rd., u.t. 74 yrs., g.r. 7*l.*, e.r. 48*l.* 350
87, High-st. (s.), f., y.r. 45*l.* 835
27, 28, and 29, Armoury-yd., f., w.r. 37*l.* 14s. 400
Camberwell.—119, Paulet-rd., u.t. 63 yrs., g.r. 6*l.*, w.r. 61*l.* 2s. 515

By NEWBON, EDWARDS, & SHEPHARD.
Hoxton.—1 to 11 (odd), Wilmer-gdns., with timber yard, f., y.r. 203*l.* 1,925
Wilmer-gdns., f.g.r. 18*l.*, reversion in 20 yrs. 570
Hornsey.—4, Millman-ter. (s.), u.t. 83 yrs., g.r. 12*l.* 12s., y.r. 65*l.* 750
5, 9 to 17 (odd), Montague-rd., u.t. 83 yrs., g.r. 37*l.* 16s., y.r. 216*l.* 1,670

By STIMSON & SONS.
Walworth.—101, 103, and 105, East-st. (s.), f., y.r. 169*l.* 12s 2,090
107, East-st., with warehouse in rear, f., e.r. 140*l.* 2,000
Norwood.—107, Thornlaw-rd., f., e.r. 80*l.* 1,100
Camberwell.—2, Halsmere-rd., u.t. 90¼ yrs., g.r. 8*l.*, y.r. 45*l.* 465
26, Valmar-rd., u.t. 78¼ .yrs., g.r. 7*l.* 7s., y.r. 46*l.* 485
67, Wyndham-rd., u.t. 21 yrs., g.r. 3*l.* 19s., w.r. 35*l.* 2s. 125
66 to 72 (even), Grove-la., u.t. 21¼ yrs., g.r. 65*l.*, y.r. 162*l.* 350
Herne Hill.—102, 108, and 116, Lowden-rd., u.t. 62 yrs., g.r. 18*l.*, y.r. 131*l.* 12s. 990
Kilburn.—Kilburn-sq., "Fairlight House," u.t. 57 yrs., g.r. 5*l.*, y.r. 50*l.* 445
Greenwich.—36 to 42 (even), Glenforth-st., u.t. 91 yrs., g.r. 21*l.*, w.r. 156*l.* 960

J. A. & W. THARP.
Walthamstow.—1 to 59 (odd), Hervey Park-rd., f., w.r. 605*l.* 3s. 5,360
Stratford.—9 and 10, Castle-st. West, u.t. 16 yrs., g.r. 10s., w.r. 41*l.* 12s. 100
Mile End.—7, 14, and 25, St. Peter's-rd, u.t. 26 yrs., g.r. 10*l.* 3s. 10d., y.r. 112*l.* 4s. 875
63 to 66, St. Peter's-rd., u.t. 26 yrs., g.r. 13*l.* 9s., y.r. 134*l.* 1,045
13, Nicholas-st., u.t. 26 yrs., g.r. 4*l.*, y.r. 36*l.* 285
St. George's East.—40, St. George-st. (s.), y.r. 34*l.*; also the "George and Vulture" p.-h., f., p. 1,220

By FOSTER & CRANFIELD (at Banbury).
Sutton-under-Brailes, Warwick.—"Church Farm," 80 a. 2 r. 38 p., f. 2,250
Two freehold enclosures, 18 a. 1 r. 15 p. 540
Two cottages and enclosures, 21 a. 2 r. 36 p., f. 750

July 1.—By BEALE & CAPPS.
Notting-hill.—2, 3, 4, and 9, Codrington-mews, f., y.r. 110*l.* 1,495

By FRASER & HEIGH.
Kentish Town.—6, 10 to 18 (even), Maldencres., f., y.r. 250*l.* 3,110
10, Prince of Wales'-cres., f., y.r. 32*l.* 440
Highgate.—7 to 13 (odd), Chester-rd., u.t. 60 yrs., g.r. 24*l.*, y.r. 146*l.* 1,400

By HARDS & BRADLY.
Belvedere, Kent.—Bexley-rd., f.g.r. 20*l.*, reversion in 90 yrs. 480
Greenwich.—47, 49, 51, 73, and 75, Banning-st., u.t. 14¼ yrs., g.r. 13*l.*, w.r. 97*l.* 10s. 320
Bromley-by-Bow.—48, 50, 52, 54, 72, and 74, Spey-st., u.t. 61 yrs., g.r. 21*l.* 10s., w.r. 166*l.* 8s. 1,260
30 to 60 (even), Wyvis-st., u.t. 61 yrs., g.r. 60*l.*, w.r. 499*l.* 4s. 3,755

By W. B. HALLETT.
Kentish Town.—9 and 13, Hamley-st., u.t. 26½ yrs., g.r. 1*l.* 7s., y.r. 76*l.* 610
Wapping.—52, Red Lion-st. (hall), f., p. 210

By HILLYER & HILLYER.
Walthamstow.—78 to 84 (even), Stafford-rd., u.t. 75 yrs., g.r. 20*l.*, w.r. 114*l.* 8s. 560
Tottenham.—14, Ipplepen-rd., u.t. 74½ yrs., g.r. 4*l.* 4s., p. 200
32 to 40 (even), Woodlands Park-rd., u.t. 83 yrs., g.r. 26*l.* 5s., w.r. 170*l.* 6s. 1,000
61 and 63, Cranleigh-rd., u.t. 83 yrs., g.r. 10*l.* 5s., w.r. 67*l.* 12s. 430

By E. HOLSWORTH.
Acton.—10, Cowper-rd., f., e.r. 32*l.* 410

By MARTEN & CARNABY.
Reigate, Surrey.—"Leckhampstead" and 1½ acre, f., p. 3,800

By PROTHEROE & MORRIS.
Forest Gate.—55, Claremont-rd., u.t. 72 yrs., g.r. 8*l.* 16s., y.r. 52*l.* 545
Leyton.—2, Capworth-st., f., w.r. 50*l.* 14s. 500
113, 115, 117, 119, 125, and 127, Manor-rd., f., w.r. 169*l.* 1,525
High-rd., "Devon House" and "Sussex House" (s.), f., y.r. 105*l.* 1,505
Leytonstone.—200 and 202, Hainault-rd., f., y.r. 87*l.* £790
Walthamstow.—Coleridge-rd., f.g.r. 14*l.*, reversion in 93½ yrs. 325
Palmerston-rd., f.g.r. 10*l.*, reversion in 93½ yrs. 230

By REYNOLDS & EASON.
Westbourne-park.—48, St. Ervan's-rd., u.t. 68½ yrs., g.r. 7*l.* 10*l.*, y.r. 32*l.* 425
Balham.—Endlesham-rd., "Fern House," u.t. 31 yrs., g.r. 10*l.*, e.r. 55*l.* 275
Camberwell.—22, 24, and 26, Mansion-st., u.t. 56½ yrs., g.r. 15*l.*, w.r. 109*l.* 4s. 550

By TOWERS, ELLIS, & Co.
Bayswater.—3, St. Petersburgh-mews, f., p. 900
Maida Vale.—154, Sutherland-av., u.t. 72 yrs., g.r. 14*l.*, p. 985

By WILLIS, CROUCH, & LEE.
Fulham.—5 and 7, Filmer-rd., u.t. 972 yrs., g.r. 9*l.*, w.r. 88*l.* 8s. 630
Norwood.—57 to 63 (odd), Hamilton-rd., u.t. 73½ yrs., g.r. 16*l.* 5s., w.r. 124*l.* 16s. 725

June 24.—By LANGRIDGE & FREEMAN (at Tunbridge Wells).
Wadhurst, Sussex.—"Scrag Oak" and "Dens" Estate, 305 a. 1 r. 14 p., f. and c. 5,050

By SPELMANS' (at Norwich).
Catton, Norfolk.—A freehold holding, 2 a. 3 r. 2 p. 350
Norwich.—Thorpe-rd., "Fern Bank," f., p. 800

June 28.—By STEPHENSON & ALEXANDER (at Cardiff).
Barry, Glamorgan.—Park-rd., "Canonbie," u.t. 993 yrs., g.r. 5s., p. 1,190

June 29.—By SURRIDGE & SONS (at Bury St. Edmunds).
Wheapstead, etc., Suffolk.—"Bevans Farm," 180 a. 3 r. 25 p., f., p. 1,230
"Castle Farm," 129 a. 1 r. 16 p., f., p. 980

June 30.—By STEPHENSON & ALEXANDER (at Cardiff).
Cardiff, Glamorgan.—Queen-st. (Empire Music Hall, etc.), f.g. rents 350*l.*, reversion in 981 yrs. 8,500

By WALTER LUDLOW & BRISCOE (at Birmingham).
Knowle, etc., Warwick.—Portions of the Packwood Estate (comprising six farms), 397 a. 1 r. 21 p., f. (in lots) 17,835
Kingwood, Warwick.—A freehold estate, 94 a. 1 r. 6 p. 2,825

July 1.—By MAY & SON (at Exeter).
Bow, etc., Devon.—"Nymett Barton Estate," 415 acres, f. 4,000

July 4.—By BAXTER, PAYNE, & LEPPER.
Beckenham.—Copers Cope-rd., "Pembury Lodge," area 1 acre, u.t. 60 yrs., g.r. 27*l.*, y.r. 200*l.* 1,700

By G. HEAD & Co.
St. John's Wood.—35, 37, 39, 43, and 45, Blenheim-ter., u.t. 40¼ yrs., g.r. 45*l.*, y.r. 220*l.* 1,665

By ALFRED SQUIRE.
Camden Town.—3, 5, and 7, Bayham-st., u.t. 35 yrs., g.r. 60*l.*, y.r. 124*l.* 650

By WHITE & SONS.
Leith Hill, Surrey.—The "Leith Hill Hotel," f., p. 3,450
Newdigate, Surrey.—A freehold house and shop, y.r. 10*l.* 315
Coldharbour, six freehold cottages, y.r. 56*l.* 6s. 1,510
Coldharbour, a freehold plot of ground 130

July 4.—By NEWELL & HAMLYN.
Deptford.—33, Albury-st., f., w.r. 31*l.* 4s. 290
20 and 22, High-st. (s.), f., y.r. and e.r. 180*l.* 3,530
New Cross.—Brockley-rd., f.g.r. 2*l.*, reversion in 25 yrs. 134
Rokeby-rd., f.g. rents 10*l.* 16s., reversion in 25 yrs. 455
Brockley.—Braxfield-rd., f.g. rents 39*l.* 5s., reversion in 71 to 73 yrs. 1,405
Arabin-rd., f.g. rents 47*l.* 5s., reversion in 71 and 73 yrs. 1,270
Howson-rd., f.g. rents 121*l.*, reversion in 74 yrs. 3,275
Lingfield, Surrey.—Two freehold cottages, wheelwright's shop, and 4 a. 1 r. 21 p., y.r. 35*l.* 920

By KEMSLEY'S.
Romford, Essex.—Hornchurch-rd., "Longfield House," f., p. 1,050

By WEATHERALL & GREEN.
Strand.—5, Tavistock-st. (hall, offices, etc.), area 2,160 ft., u.t. 33 yrs., g.r. 40*l.*, p. 6,500
City of London.—21, Paternoster-sq. (s.), u.t. 4½ yrs., g.r. 13s., y.r. 110*l.* 350
Pimlico.—33, Winchester-st., u.t. 26 yrs., g.r. 9*l.*, y.r. 63*l.* 420
Highbury.—12, Highbury-ter., with stabling, f., y.r. 77*l.* 825
Tooting.—Tooting Bec-rd., the "Rose and Crown," b.h., f., p. (with goodwill) 6,550

July 5.—By ALLAN BOOTH.
Holloway.—6, Middleton-rd., u.t. 42½ yrs., g.r. 2*l.*, e.r. 55*l.* 620
64, Tufnell Park-rd., u.t. 59½ yrs., g.r. 8*l.*, p. 460

By C. BRIDGER & SON.
Haselmere, Surrey.—Greyswood Hill, "Greyswood Beeches" and 4½ acres, f., p. 7,000
Headley, Hants.—Stone Hill-rd., a freehold building site, area 10 acres 495

By DAVID BURNETT & Co.
Tottenham.—2, 3, and 4, Heybourne-rd., u.t. 72 yrs., g.r. 16*l.* 10s., y.r. 84*l.* 390

By C. RAWLEY CROSS & Co.
Shepherd's Bush.—39, Bassein Park-rd., u.t. 974 yrs., g.r. 9*l.*, e.r. 45*l.* 460

By DUNCAN & KIMPTON.
Wandsworth.—9, Eglantine-rd., u.t. 76½ yrs., g.r. 7*l.*, y.r. 40*l.* 490
Tooting.—Mitcham-rd., "The Hollies," f., p. 540

By FULLER, MOON, & FULLER.
Norwood.—230, South Norwood-hill, u.t. 51 yrs., g.r. 16*l.*, p. 300

By G. F. HARRINGTON.
West Ham.—84, 86, and 88, Amity-rd., f., w.r. 84*l.* 10s. £790

By HOBSON, RICHARDS, & Co.
Bethnal Green.—102, 104, 106, 112, to 124 (even), Brady-st., together with the "Alexandra Princess of Wales" p.h., plot of land, also 11 to 20, Reuben-st., and 1 to 21, 23, and 25, Dagnall-pl., f., y.r. 1,150*l.* (in one lot) 12,150

By STUART BAKER & Co.
Croydon.—246, 250, and 252, London-rd., f., e.r. 126*l.*, also f.g. rents 47*l.* 10s., reversion in 15 yrs. 3,500

By E. H. ELLIS (at Guildford).
Normandy, Surrey.—"Ashfield Lodge Farm," 4 a. 0 r. 38 p., f. 500

By T. W. GAZE & SON (at Ipswich).
Stonham Parva, etc., Suffolk.—"Westwood's Hall Estate," 249 a. 3 r. 35 p., f. 2,500
Earl Stonham, Suffolk.—Freehold farmhouse and 39 a. 1 r. 7 p. 360
Mendlesham, Suffolk.—"Kersey's Farm," 121 a. 2 r. 18 p., f. 1,730
Four enclosures, 25 a. 0 r. 19 p., f. 250
Buxhall, Suffolk.—"Fasbourn Hall Estate," 191 a. 3 r. 25 p., f. 1,700
Wyverstone, Suffolk.—"Crooksell Hall Farm," 135 a. 0 r. 18 p., f. 875
Old Newton, Suffolk.—"Yew Tree Farm," 49 a. 0 r. 12 p., f. 1,000

July 6.—By GEORGE BILLINGS.
Holloway.—34 to 40 (even), Brand-st., and 1 to 6, Osnaburgh-cottages, u.t. 81¼ yrs., g.r. 30*l.*, w.r. 154*l.* 14s. 470
Clapton.—3A and 4A, Blinco-rd., u.t. 82 yrs., g.r. 10*l.*, w.r. 57*l.* 4s. 400
Walthamstow.—3, Longfellow-rd., f., w.r. 27*l.* 6s. 260
17, Richmond-rd., f., w.r. 24*l.* 14s. 245

By F. JOLLY & JAMES.
Victoria Park.—1 and 2, Montague-bdgs. (s.), f., y.r. 67*l.* 925

By FOSTER & CRANFIELD.
Knightsbridge.—Nos. 16 and 18 (s.), f., y.r. 330*l.* 8,550
No. 20 (s.), moiety of, f., y.r. 105*l.* 2,450

By CHAS. MANDELL.
Shaftesbury-avenue.—No. 161 (s.), u.t. 25 yrs., g.r. 46*l.*, y.r. 143*l.* 850

By WESTON & SONS.
Camberwell.—21 and 23, Kenbury-st., u.t. 7 yrs., g.r. 8*l.* 8s., w.r. 88*l.* 8s. 150

By WM. WILLETT.
Ealing.—Avenue-cres., "Fairfield," u.t. 72 yrs., g.r. 20*l.*, y.r. 70*l.* 790

By DEBENHAM, TEWSON, & Co., with MATTHEWS, MATTHEWS, & GOODMAN (at Winchester House).
Woolwich, Kent.—Green's-end, etc., f.g. rents 140*l.*, reversion in 49 yrs. 4,200
Green's-end, etc., f.g. rents 18*l.* 2s. 6d., reversion in 22½ yrs. 900
19 and 20, Green's-end (bank premises and a shop), f., y.r. 150*l.* 3,400
Green's-end, etc. "Elephant and Castle" b.h., etc., f.g.r. 60*l.*, reversion in 31 yrs. 3,100
Beresford-sq., f.g.r. 40*l.*, reversion in 31 yrs. 1,225
New-rd., f.g. rents 82*l.*, reversions in 22½ yrs. to 57½ yrs. 2,325
Beresford-sq., "Ordnance Arms" p.h., f.g.r. 105*l.*, reversion in 45 yrs. 3,050
Beresford-sq., f.g.r. 45*l.*, reversion in 45 yrs. 1,375
Plumstead-rd., "Royal Mortar Hotel," a freehold rental of 150*l.*, reversion in 45 yrs. 5,000
2, Plumstead-rd. (s.), f., y.r. 32*l.* 1,100
Plumstead-rd., f.g.r. 45*l.*, reversion in 31 yrs. 1,350
19 and 21, New-rd. (s.), f., y.r. 30*l.* 570
New-rd., the "Royal Oak" p.h., a freehold rental of 150*l.*, reversion in 54½ yrs. 5,100
Taylor's-buildings, f.g. rents 11*l.* 12s., reversion in 28½ yrs. 410
Spray-st., f.g. rents 46*l.*, reversion in 1½, 20, and 30 yrs. 1,425
4 to 14, Plumstead-rd. (including the "Woolwich Infant" b.h.), f., y.r. 340*l.* 9,350
Plumstead-rd., f.g. rents 12*l.*, reversion in 10 yrs. 1,425
Parry-pl., f.g. rents 30*l.*, reversion in 5½ yrs. 2,575
Spray-st., f.g. rents 41*l.*, reversions in 11½, 42, and 58½ yrs. 3,300
20 to 30 (even), Spray-st., f., w.r. 124*l.* 16s. 1,425
Spray-st., the "North Kent Tavern," freehold rental of 50*l.*, reversion in 15½ yrs. 2,250
Spray-st., f.g. rents 90*l.*, reversion in 60 yrs. 2,150
Parry-pl., f.g. rents 64*l.* 11s. 6d., reversion in 5½ yrs. 5,100
21 and 22, Plumstead-rd., f., e.r. 72*l.*, also the "Burrage Arms" p.h., f.g.r. 15*l.*, reversion in 16 yrs. 3,500
Plumstead-rd., f.g. rents, 12*l.* 6s., reversion in 9½ yrs. 1,375
Burrage-rd., f.g. rents 48*l.*, reversions in 2½ and 6 yrs. 4,225
Burrage-rd., the "Queen's Arms" p.h., f.g.r. 60*l.*, reversion in 54½ yrs. 1,850
33, Burridge-rd., f., w.r. 32*l.* 10s., also f.g.r. 8*l.*, reversion in 4½ yrs. 875
Plumstead-rd., f.g. rents 25*l.*, reversion in 38½ yrs. 800
31, Plumstead-rd. (s.), f., y.r. 40*l.* 900
Plumstead-rd., f.g. rents 180*l.*, reversions in 28½ and 47½ yrs. 4,400
Plumstead-rd., "Essex Arms" b.h., etc., f.g. rents 30*l.*, reversion in 52½ yrs. 1,175
Plumstead-rd., f.g. rents 54*l.* 16s., reversions in three-quarters of a year and 21 yrs. 2,250
Maxey-rd., etc., f.g. rents 17*l.* 12s. 6d., reversions in 3½ to 7½ yrs. 1,825
Burrage-gr., f.g. rents 55*l.* 10s., reversion in 4 yrs. 5,700
Burrage-gr., f.g.r. 12*l.*, reversion in 98 yrs. 300
Maxey-rd., f.g. rents 55*l.* 10s., reversions from 2½ to 8 yrs. 5,525
Plumstead-rd., "Sussex Arms" p.h., f.g. rents 43*l.*, reversions from 3½ to 35 yrs. 7,675
Plumstead-rd., the "Clarence Arms" p.h., freehold rental of 50*l.*, reversion in 28½ yrs. 1,750
Charlotte-st., f.g. rents 65*l.* 14s. 6d., reversions from 3½ to 16½ yrs. 6,625

Woolwich, Kent.—Plumstead-rd., f.g. rents 14*l.* 14*s.*, reversion in 3¼ yrs. £2,700
Plumstead-rd., etc., f.g. rents 93*l.* 7*s.*, reversions from 6½ to 22½ yrs. 11,425
Plumstead-rd., the "Dover Castle" p.h., f.g.r. 13*l.*, reversion in 16½ yrs. 2,100
Green's-end, f.g. rents 125*l.*, reversion in 68½ yrs. 3,275
New-rd., f.g.r. 181*l.*, reversion in 67½ yrs... 4,425

July 7.—By BALCH & BALCH.

Pentonville.—15, Holford-sq., u.t. 28 yrs., g.r. 5*l.*, e.r. 55*l.* 450
Holloway.—18 and 19, Penn-rd.-villas, u.t. 38 yrs., g.r. 16*l.*, y.r. 94*l.* 860

By BEADEL, WOOD, & CO.

Enfield.—Holtwhite's Hill, a freehold building site, area 3 a. 2 r. 26 p., f., p. 1,000

By CHANCELLOR & SONS.

Richmond, Surrey.—28 and 30, St. Mary's-gr., u.t. 75 yrs., g.r. 3*l.*, y.r. 51*l.* 410

By DAVIS, BONSALL, & CO.

Fulham.—6, 10, and 16, Basuta-rd., u.t. 75½ yrs., g.r. 15*l.*, w.r. 102*l.* 14*s.* 910
33, Parthenia-rd., u.t. 75½ yrs., g.r. 6*l.*, y.r. 32*l.* 370
21, Maxwell-rd, u.t. 45 yrs., g.r. 5*l.*, y.r. 31*l.* 16*s.* 335
22 and 24, Harwood-ter., u.t. 55 yrs., g.r. 6*l.*, w.r. 62*l.* 8*s.* 430
55, Farm-la., u.t. 53½ yrs., g.r. 3*l.*, w.r. 23*l.* 8*s.* .. 170
35, Coomer-rd., u.t. 67 yrs., g.r. 3*l.* 10*s.*, w.r. 33*l.* 16*s.* 325
72 and 74, Coomer-rd., u.t. 61 yrs., g.r. 5*l.*, w.r. 54*l.* 12*s.* 465

By NEWBON, EDWARDS, & SHEPHARD.

King's Cross.—8, Derby-st., f., y.r. 50*l.* 700
Camberwell.—61 to 67 (odd), Denmark-rd., u.t. 24 yrs., g.r. 18*l.*, y.r. 120*l.* 735
Holloway.—Hilldrop-cres., l.g.r. 16*l.*, u.t. 46 yrs., g.r. 2*l.* 260
Minories.—No. 54 (s.), u.t. 52 yrs., g.r. 42*l.* 10*s.*, y.r. 100*l.* 950
Regent's Park.—5 to 8, Cumberland-st. (s.), u.t. 20½ yrs., g.r. 47*l.* 10*s.*, y.r. 130*l.* 430
48 and 49, Cumberland-market, u.t. 20½ yrs., g.r. 12*l.*, w.r. 187*l.* 4*s.* 710
50, Cumberland-market, u.t. 39 yrs., g.r. 7*l.* 10*s.*, y.r. 60*l.* 355
Stoke Newington.—48, Newington-green (s.), u.t. 69 yrs., g.r. 20*l.* y.r. 60*l.* 585
145, Brooke-rd., u.t. 76½ yrs., g.r. 7*l.*, y.r. 45*l.* 470
4, Benthall-rd., u.t. 71½ yrs., g.r. 5*l.*, y.r. 32*l.* 345
Finsbury Park.—307, Seven Sisters-rd., u.t. 63 yrs., g.r. 32*l.* 11*s.*, e.r. 120*l.* 825
Islington.—24, Rheidol-ter., u.t. 21 yrs., g.r. 5*l.*, e.r. 42*l.* 240

By DEBENHAM, TEWSON, & CO.

Regent's Park.—Avenue-rd., "Ellel Lodge" and 1½ acre, u.t. 32½ yrs., g.r. nil, p. 6,000

By GUY & SON.

Heathfield, Sussex.—"Cade Street Estate," 300 a. 3 r. 7 p., f. (including timber) 8,750
"Swiffe Estate," 265 a. 1 r. 6 p., f. 6,600

By STIMSON & SONS.

Kensington.—Warwick-gdns., f.g. rents 15*l.*, reversion in 48 yrs. 1,470
72, Pembroke-rd. (s.), f., y.r. 55*l.* 980
Pembroke-rd., f.g.r. 10*l.*, reversion in 48 yrs. 980
Walthamstow.—44, Upper Walthamstow-rd., f., e.r. 45*l.* 550
Peckham.—14, Oakhurst-gr., f., y.r. 42*l.* 525
Choumert-rd., f.g.r. 8*l.* 8*s.*, reversion in 28 yrs. 260

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; h.h. for beer-house; p.h. for public-house; o. for offices; s. for shops; ct. for court.

MEETINGS.

FRIDAY, JULY 15.

Incorporated Association of Municipal and County Engineers.—Thirty-first Annual General Meeting, at Shrewsbury (continued).

SATURDAY, JULY 16.

Incorporated Association of Municipal and County Engineers.—Thirty-first Annual General Meeting (concluded).

Institute of Sanitary Engineers.—Visit to Tunbridge Wells.

WEDNESDAY, JULY 20.

Institute of Sanitary Engineers, Ltd.—(1) Election Committee at 3 o'clock. (2) General Purposes and Finance Committee at 5 o'clock.

Builders' Foremen and Clerks of Works' Institution.—Half-yearly Meeting of the members. 8 p.m.

THURSDAY, JULY 21.

Institution of Heating and Ventilating Engineers.—Meeting at St. George Hotel, Lime-street, Liverpool. The Council Meeting will be at 10.30, the General Meeting at 2.30, and Dinner at 7.30.

Institution of Mechanical Engineers.—Conversazione.

FRIDAY, JULY 22.

Institution of Heating and Ventilating Engineers.—The members will meet at the St. George Hotel at 10 o'clock and visit one of the Atlantic liners, lunching thereafter at the St. George Hotel at 1 o'clock. After lunch there will be a cruise on the river, starting at 2.45.

Institution of Mechanical Engineers. — Ordinary General Meeting. Mr. Edward G. Hillyer on "Design and Test of a Modern Steam-Power Plant."

Junior Institution of Engineers.—Visit to Messrs. Bryant and May's Match Manufactory, Fairfield Works, Fairfield-road, Bow. Train, with carriages reserved for members, leaves Fenchurch-street at 2.50 p.m.

SATURDAY, JULY 23.

Architectural Association.—Visit to Hatfield House.

TO CORRESPONDENTS.

A. M. (Below our limit).—A. S. (Amounts should have been stated).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, manuscripts, or other documents, sent to or left at this office, unless he has specially asked for them.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and not to the Editor.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Hard Stocks.	1 16 0	per 1000 alongside, in river.
Rough Stocks and Grizzles	1 13 0	„ „ „
Facing Stocks ...	2 12 0	„ „ „
Shippers	2 10 0	„ „ „
Flettons	1 10 0	„ at railway depôt
Red Wire Cuts ...	1 13 0	„ „ „
Best Fareham Red	3 12 0	„ „ „
Best Red Pressed Ruabon Facing	5 0 0	„ „ „
Best Blue Pressed Staffordshire ...	4 4 0	„ „ „
Do. Bullnose	4 10 0	„ „ „
Best Stourbridge Fire Bricks.....	4 8 0	„ „ „
GLAZED BRICKS.		
Best White and Ivory Glazed Stretchers	13 0 0	„ „ „
Headers	12 0 0	„ „ „
Quoins, Bullnose, and Flats.....	17 0 0	„ „ „
Double Stretchers	19 0 0	„ „ „
Double Headers...	16 0 0	„ „ „
One Side and two Ends	19 0 0	„ „ „
Two Sides and one End	20 0 0	„ „ „
Splays, Chamferred, Squints	20 0 0	„ „ „
Best Dipped Salt Glazed Stretchers, and Header	12 0 0	„ „ „
Quoins, Bullnose, and Flats.....	14 0 0	„ „ „
Double Stretchers	15 0 0	„ „ „
Double Headers...	14 0 0	„ „ „
One Side and two Ends	15 0 0	„ „ „
Two Sides and one End	15 0 0	„ „ „
Splays, Chamferred, Squints	14 0 0	„ „ „
Second Quality White and Dipped Salt Glazed	2 0 0	„ less than best.

	s. d.	
Thames and Pit Sand.....	7 3	per yard, delivered.
Thames Ballast.....	6 0	„ „
Best Portland Cement	30 0	per ton, „
Best Ground Blue Lias Lime	21 0	„ „

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime.....12*s.* 0*d.* per yard, delivered.
Stourbridge Fireclay in sacks 27*s.* 6*d.* per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	„ „
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2 1	„ „
White Basebed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2 2½	„ „

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. depôt.
Beer „	1 6	„ „
Greenshill „	1 10	„ „
Darley Dale in blocks...	2 4	„ „
Red Corsehill „	2 5	„ „
Closeburn Red Freestone	2 0	„ „
Red Mansfield „	2 4	„ „

STONE.—(*continued*).

YORK STONE—*Robin Hood Quality.*

	s. d.	
Scappled random blocks	2 10	per ft. cube, deld. rly. depôt.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per ft. super. „
6 in. rubbed two sides ditto, ditto	2 6	„ „
3 in. sawn two sides slabs (random sizes)	0 11½	„ „
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	„ „
1½ in. to 2 in. ditto, ditto	0 6	„ „
HARD YORK—		
Scappled random blocks	3 0	per ft. cube, „
6 in. sawn two sides, landings to sizes (under 40 ft. super.)	2 8	per ft. super. „
6 in. rubbed two sides ditto	3 0	„ „
3 in. sawn two sides (slabs random sizes)	1 2	„ „
2 in. self-faced random flags	0 5	„ „
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube, deld. rly. depôt
„ „ „ 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt
„ „ „ 3 in. do.	1 2½	„ „

SLATES.

in. in.	£ s. d.	
20 × 10 best blue Bangor	13 2 6	per 1000 of 1200 at r. d.
20 × 12 „ „	13 17 6	„ „
20 × 10 first quality „	13 0 0	„ „
20 × 12 „ „ „	13 15 0	„ „
16 × 8 „ „ „	7 5 0	„ „
20 × 10 best blue Portmadoc	12 12 6	„ „
16 × 8 „ „	6 12 6	„ „
20 × 10 best Eureka unfading green .	15 17 6	„ „
20 × 12 „ „	18 7 6	„ „
18 × 10 „ „	13 5 0	„ „
16 × 8 „ „	10 5 0	„ „
20 × 10 permanent green	11 12 6	„ „
18 × 10 „ „	9 12 6	„ „
16 × 8 „ „	6 12 6	„ „

TILES.

	s. d.	
Best plain red roofing tiles .	42 0	per 1000 at rly. depôt.
Hip and Valley tiles ...	3 7	per doz. „ „
Best Brosely tiles.....	50 0	per 1000 „ „
Do. Ornamental tiles	52 6	„ „ „
Hip and Valley tiles ...	4 0	per doz. „ „
Best Ruabon red, brown, or brindled do. (Edwards)	57 6	per 1000 „ „
Do. Ornamental do	60 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 0	„ „ „
Best Red or Mottled Stafford shire do. (Peakes).....	51 9	per 1000 „ „
Do. Ornamental do.....	54 6	„ „ „
Hip tiles	4 1	per doz. „ „
Valley tiles	3 8	„ „ „
Best "Rosemary" brand plain tiles.....	48 0	per 1000 „ „
Best Ornamental tiles	50 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 8	„ „ „
Best "Hartshill" brand plain tiles, sand faced.	50 0	per 1000 „ „
Do. pressed.....	47 6	„ „ „
Do. Ornamental do	50 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 6	„ „ „

WOOD.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in	15 10 0	16 10 0
Deals: best 3 by 4.....	14 10 0	15 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	12 10 0
Battens: best 2½ by 6 and 3 by 6 ..	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	„ „ „
2 in. by 4 in. and 2 in. by 6 in....	9 0 0	9 10 0
2 in. by 4½ in. and 2 in. by 5 in....	8 10 0	9 10 0
Foreign Sawn Boards—		
1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	„

	At per load of 50 ft.	
Fir timber: best middling Danzig or Memel (average specification)	4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.) ...	3 12 6	3 15 0
Small timber (6 in. to 8 in.)	3 0 0	3 10 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (30 ft. average)	3 5 0	3 15 0

JOINERS' WOOD.

	At per standard.	
White Sea: first yellow deals, 3 in. by 11 in	23 0 0	24 0 0
3 in. by 9 in.	21 0 0	22 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	18 10 0
Second yellow deals, 3 in. by 11 in.....	18 10 0	20 0 0
„ „ 3 in. by 9 in.	17 10 0	19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	15 10 0	16 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0
Do. 3 in. by 9 in.....	18 0 0	19 10 0
Battens.....	13 10 0	15 0 0
Second yellow deals, 3 in. by in.	16 0 0	17 0 0
Do. 3 in. by 9 in.....	14 10 0	16 0 0
Battens.....	11 0 0	12 10 0
yellow deals, 3 in. by in.	13 10 0	14 0 0
Do. 3 in. by 9 in.....	13 0 0	14 0 0
Battens.....	10 0 0	11 0 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in.	14 10 0	15 10 0
„ „ 3 in. by 9 in.	13 10 0	14 10 0
Battens.....	11 0	12 0 0

WOOD—(*continued*).	At per standard.					
JOINER'S WOOD (*continued*).	£	s.	d.	£	s.	d.
White Sea and Petersburg (*contd.*)						
Second white deals, 3 in. by 11 in.	13	10	0	14	10	0
" " 3 in. by 9 in.	12	10	0	13	10	0
" " battens	9	10	0	10	10	0
" " deals	16	10	0	20	0	0
Under 2 in. thick extra	0	10	0	1	0	0
Yellow Pine—First, regular sizes	35	0	0	upwards.		
Oddments	24	0	0	26	0	0
Seconds, regular sizes	26	10	0	28	10	0
Yellow Pine oddments	22	0	0	24	0	0
Kauri Pine—Planks, per ft. cube	0	3	6	0	5	0
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	2	6	0	3	6
Small " "	0	2	3	0	2	6
Wainscot Oak Logs, per ft. cube.	0	5	0	0	5	6
Dry Wainscot Oak, per ft. sup. as inch	0	0	7	0	0	8
¾ in. do. do.	0	0	6½		—	
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0	0	9	0	0	11
Selected, Figury, per ft. sup. as inch	0	1	6	0	2	0
Dry Walnut, American, per ft. sup. as inch	0	0	10	0	1	0
Teak, per load	17	0	0	21	0	0
American Whitewood Planks, per ft. cube	0	4	0		—	
Prepared Flooring—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	13	6	0	17	6
1 in. by 7 in. yellow, planed and matched	0	14	0	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	0	13	6
1 in. by 7 in. do. do.	0	14	0	0	18	0
¾ in. by 7 in. white do. do.	0	10	0	0	11	6
1 in. by 7 in. do. do. do.	0	11	6	0	13	6
6 in. at 6d. to 9d. per square less than 7 in.						

JOISTS, GIRDERS, &c.	In London, or delivered Railway Vans, per ton.					
	£	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	6	5	0	...	7	5	0
Compound Girders, ordinary sections	8	2	6	...	9	5	0
Angles, Tees and Channels, ordinary sections	7	17	6	...	8	17	6
Flitch Plates	8	5	0	...	8	15	0
Cast Iron Columns and Stanchions including ordinary patterns	7	2	6	...	8	5	6

METALS.	Per ton, in London.					
IRON—	£	s.	d.		£	s.	d.
Common Bars	7	5	0	...	7	15	0
Staffordshire Crown Bars, good merchant quality	7	15	0	...	8	5	0
Staffordshire "Marked Bars"	10	0	0	...		—	
Mild Steel Bars	8	15	0	...	9	5	0
Hoop Iron, basis price	9	5	0	...	9	10	0
" " Galvanized	17	10	0	...		—	
("And upwards, according to size and gauge.)							
Sheet Iron, Black—							
Ordinary sizes to 20 g.	9	15	0	...		—	
" " 24 g.	10	15	0	...		—	
" " 26 g.	12	5	0	...		—	
Sheet Iron, Galvanised, flat, ordinary quality—							
Ordinary sizes—6 ft. by 2 ft. to 3 ft. to 20 g.	12	15	0	...		—	
Ordinary sizes to 22 g. and 24 g.	13	5	0	...		—	
" " 26 g.	14	5	0	...		—	
Sheet Iron, Galvanised, flat, best quality—							
Ordinary sizes to 20 g.	16	0	0	...		—	
" " 22 g. and 24 g.	16	10	0	...		—	
" " 26 g.	18	0	0	...		—	
Galvanised Corrugated Sheets—							
Ordinary sizes 6 ft. to 8 ft. 20 g.	12	10	0	...		—	
" " 22 g. and 24 g.	13	0	0	...		—	
" " 26 g.	13	15	0	...		—	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11	15	0	...		—	
Best Soft Steel Sheets, 22 g. & 24 g.	12	15	0	...		—	
" " " 26 g.	14	0	0	...		—	
Cut nails, 3 in. to 6 in.	9	0	0	...	9	10	0
(Under 3 in., usual trade extras.)							

LEAD, &c.	Per ton, in London.					
	£	s.	d.		£	s.	d.
LEAD—Sheet, English, 3lb. and up	14	5	0	...		—	
Pipe in coils	14	15	0	...		—	
Soil pipe	17	5	0	...		—	
Compo pipe	17	5	0	...		—	
ZINC—Sheet—							
Vieille Montagne ton	27	0	0	...		—	
Silesian	26	15	0	...		—	
COPPER—							
Strong Sheet per lb.	0	0	10½	...		—	
Thin " "	0	0	11½	...		—	
Copper nails "	0	0	11	...		—	
BRASS—							
Strong Sheet "	0	0	10	...		—	
Thin " "	0	0	11	...		—	
TIN—English Ingots	0	1	3½	...		—	
SOLDER—Plumbers' "	0	0	6½	...		—	
Tinmen's "	0	0	8	...		—	
Blowpipe "	0	0	9	...		—	

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d.	per ft. delivered.
" fourths	1½d.	" "
21 oz. thirds	3½d.	" "
" fourths	2½d.	" "
26 oz. thirds	4d.	" "
" fourths	3½d.	" "
32 oz. thirds	5d.	" "
" fourths	4½d.	" "
Fluted Sheet, 15 oz.	3d.	" "
" 21 oz.	4d.	" "
¼ Hartley's Rolled Plate	1½d.	" "
⅜ " " " "	1½d.	" "
½ " " " "	2½d.	" "

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	1	6
" " " in barrels	"	0	1	7
" " " in drums	"	0	1	9
Boiled " " in pipes	"	0	1	8
" " " in barrels	"	0	1	9
" " " in drums	"	0	2	0
Turpentine, in barrels	"	0	3	6
" in drums	"	0	3	8
Genuine Ground English White Lead	per ton	18	15	0
Red Lead, Dry	"	18	10	0
Best Linseed Oil Putty	per cwt.	0	6	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.	Per gallon.		
	£	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	0
Fine Elastic Carriage	0	12	6
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	16	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flatting Varnish	0	18	0
White Copal Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	6
Berlin Black	0	16	0
Knotting	0	10	0
French and Brush Polish	0	10	0

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the rate of 18s. per annum (52 numbers) PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, &c., 26s. per annum. Remittances (payable to J. MORGAN) should be addressed to the Publisher of "THE BUILDER," Catherine-street, W.C.

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

ABERTILLERY.—For erecting a school and classrooms, Park-road, for the Trustees of Ebenezer Baptist Chapel. Mr. W. Beddoe Rees, architect, 37, St. Mary-street, Cardiff :—

Gaen Bros.	£2,248 0 0	Mr. Moses Adams, Gelly Grug, Abertillery*	£1,800 9 0
John Broad, L.T.I.	1,989 0 0		
Skidmore & Mac Whurtee	1,857 10 0		

ALDERSHOT.—For erecting Board Schools at Newport-road, for the Urban District Council. Mr. F.C. Uren, C.E., Surveyor, Council Offices, Aldershot. Quantities by Messrs. Fowler & Hugman, 9, Craig's-court, Charing Cross :—

Chinchin	£12,173	Tomsett & Co.	£9,975
Gaze & Sons	11,850	Mitchel Bros.	9,975
Whitehead & Co.	10,950	Martin Wells & Co.	9,799
W. Watson	10,790	A. Fawkes	9,780
G. Potter	10,765	G. Kemp, Aldershot*	9,689
Harris	10,625	M. Fitt & Co.	9,587
Musselwhite	10,599	E C. Hughes	9,500
Goddard & Sons	10,076	Crosbie	9,351
W. H. Lorden	9,987		

ALDERSHOT.—For erecting mixed and infants' schools in Newport-road, for the Urban District Council. Mr. F. C. Uren, C.E., Surveyor, Municipal-buildings, Aldershot. Quantities by Messrs. Fowler & Hugman, 9, Craig's-court, Charing Cross :—

F. Chinchen & Co.	£12,173	Mitchell Bros.	£9,975
W. H. Gaze & Sons	11,850	Tomsett & Co.	9,975
Whitehead & Co.	10,950	Martin, Wells, & Co.	9,799
W. Watson	10,790	A. Faulks	9,790
G. Potter	10,765	G. Kemp, Aldershot*	9,689
J. Harris	10,625	M. E. Titt	9,587
Musselwhite & Sapp	10,599	E. C. Hughes	9,500
Goddard & Sons	10,076	Crosby & Co.	9,351
W. H. Lorden & Sons	9,987		

For Boundary Wall at Council's Depot.

T. Earney	£125 0	Gale & Savage	£130 15
C. E. Garland	129 0	H. Hobbs	185 0

ASHFORD (Kent).—For 1,610 cubic yards of broken granite, for the Urban District Council. Mr. W. Terrill, surveyor, North-street, Ashford, Kent :—

The Road Maintenance & Stone Supply Co., Ltd., The Crescent, Gravesend—12s. 9d. per cubic yard to the East, and 13s. 3d. per cubic yard to the West Stations, S.E. & C. Ry., Ashford, Kent, for 2 in. gauge hand broken Cherbourg quartzite.*

[Thirty-two tenders received.]

BRIDGE.—For alterations and additions to Bridge Hill House, near Canterbury. Messrs. Fry & Miller, architects, Cannon-street, Dover :—

Hayward & Paramor	£3,389 0 0	C. Jenner	£2,940 0 0
G. H. Denne & Son	3,383 0 0	W. Bromley	2,886 0 0
W. J. Adcock	£3,164 5 8	T. T. Denne, Walmer*	2,820 0 0

For Electric Light Installation.

Messrs. L. Sunderland & Co., Westminster* £578 10 0

BARNES.—For building porter's lodge, discharge block, etc., at hospital in South Worple Way, Mortlake, S.W., for the Urban District Council. Mr. G. Bruce Tomes, Surveyor, Council Offices, High-street, Mortlake. Quantities by Mr. A. O. Breeds, 62, Lincoln's-inn-fields :—

W. Manders	£1,420 18 8
General Builders, Ltd.	1,297 0 0
Hayes & Co.	1,282 14 5
Heywood & Sparksman	1,277 0 0
B. E. Nightingale	1,199 0 0
Chambers Bros.	1,182 0 0
Spencer, Santo, & Co.	1,178 0 0
Aldridge & Son	1,158 13 11
Gough & Co.	1,144 0 0
Foster Bros.	1,143 0 0
T. Bendon	1,139 0 0
W. Wallis	1,127 0 0
Dean & Co.	1,108 0 0
G. Cheswas	1,079 10 11
W. J. Renshaw	1,039 0 0
Hunt & Son, 12, Archway-street, Barnes*	1,019 15 0
J. Casse	1,007 11 2

*BOURNE (Lincs.). — For rebuilding the Light Dragoon Inn, for Messrs. Hunt. Mr. F. G. Shilcock, architect, Bourne :—

J. Woolston	£798	T. Furniss	£637
S. Chappel	656	Wright & Wall, Bourne*	610
Hinson & Co.	645	S. Hipwell & Co.	605
Gelthorpe & Sons	640		

BRIDGWATER.—For erecting four houses, Ashleigh-road, Bridgwater, for Mr. Albert Lewis. Mr. J. W. Hill, architect. Quantities supplied :

Scott	£1,240	Silke	£1,110
Gleed Bros.	1,200	Bryer	1,100
Stockham	1,175	Westbury & Jarman	997
Geen	1,126	Fursland*	980

BRIGHTON. — For forming roads, etc., Preston and Patcham, for the Brighton Education Committee. Messrs. T. Simpson & Son, surveyors, 17, Ship-street, Brighton :—

E. H. King	£799 10 2	W. H. Holman & Co., 101 & 152, Lewis-rd., Brighton‡	£592 0 0
D. & J. Hall	795 14 10		
G. Burstow & Son	616 0 0		

For external repairs of the Pelham-street Council School, and internal repairs and decorations of Board room at offices of Committee :—

Pelham-street School.

D. & J. Hall	£91 7 6	Gates & Sons, 1, North-road, Brighton‡	£60 10 0
S. Worsley	74 0 0		
W. Taylor	63 0 0		
J. Barnden	61 0 0		

Offices, Board Room.

W. Taylor	£35 1 0	Gates & Sons, 1, North-road, Brighton‡	£19 15 0
J. Barnden	29 18 6		
S. Worsley	24 0 0		
D. & J. Hall	22 17 6		

‡ Recommended for acceptance.

BRUSHFORD.—For building a stone bridge at Brushford, over the River Avon, in the Parish of Diptford, for the Totnes Rural District Council. Mr. A. Tucker, Highway Surveyor, Hazard, Totnes :—

E. L. P. Duke, 9, Lipson-road, Plymouth* £177 9 4

BURSLEM.—For electric lighting and destructor plant, for the Corporation. Mr. Ashton Bremner, Borough Electrical Engineer, Market-buildings, Burslem :—

Boilers : Babcox & Wilcox	£1,087 0 0
Piping : Sir Hiram Maxim	1,009 0 0
Engines and Dynamos : Dick Kerr (with Howden engines)	1,863 0 0
Balancer Booster : General Electric	337 0 0
Switchboard : Crompton & Co.	598 0 0
Cables : Callender & Co.	9,554 1 8
Arc Lamps : Crompton & Co.	443 0 0
Accumulators : E.P.S. Co.	780 5 0
Destructor : Heenan & Froude	3,095 0 0

DIPTFORD.—For making new road between Cleave and Higher Storridge, for the Totnes Rural District Council. Mr. A. Tucker, Highway Surveyor, Hazard, Totnes :—

R. Jones & Sons, Jordan-street, Buckfastleigh* £161 5 0

DOVER.—For sewers and surface water drains in the River district and in Park-avenue, for the Town Council. Mr. H. E. Stilgoe, A.M.Inst.C.E., Maison Dieu House, Dover :—

F. Miskin, Ltd.	£3,771 5 5	C. Castle & Co.	£3,200 8 0
A. Dixon & Co.	3,717 11 0	O. G. Osenton	3,075 0 0
B. Cooke & Co.	3,708 10 0	G. Lewis & Co., Dover*	2,926 0 0
W. L. Wallis & Co.	3,390 2 3		

DYSART.—For cement concrete paving and kerb, channel, and other works. Mr. D. Forbes Smith, architect, 210, High-street, Kirkcaldy. Quantities by the architect :—

Section I. : A. Wallace, Dysart*	£339 18 7½	
Section II. : A. Wallace, Dysart*	336 7 2	
Section III. : J. Easton, Kirkcaldy*	742 3 6	

EAST HAM.—For repairing, painting, and sundry work at (*a*) Plashet-lane School and (*b*) the outbuildings at Shaftesbury-road School, for the East Ham Education Committee. Mr. R. L. Curtis, architect, 11 and 12, Finsbury-square, E.C. :—

(*a*)

J. J. Quarterman	£1,227 7 0	Woollaston Bros.	£829 0 0
Clemens Bros.	1,016 10 0	C. North	817 0 0
Vigor & Co.	988 0 0	H. C. Horswill, 182, Green-st., Forest Gate*	791 19 0
E. Brady	977 18 8	E. Proctor & Son	754 4 0
J. W. Jerram	947 0 0		
M. Calnan & Son	847 0 0		

(*b*)

J. J. Quarterman	£278 1 6	Vigor & Co.	£210 0 0
J. Stokes & Sons	248 0 0	J. W. Jerram	199 0 0
M. Calnan & Son	241 0 0	W. C. Bragg	195 17 6
E. Proctor & Son	230 0 0	H. C. Horswill, 182, Green-st., Forest Gate*	165 0 0
C. North	230 0 0		
Clemens Bros.	229 0 0		

ERITH.—For painting, repairs, etc., at public elementary schools, for the Education Committee. Mr. W. Egerton, architect, 12, Queen's-road, Erith:—

Central Schools, West-street, Erith.

H. Vaughan	£405 0 0
F. Spencer & Son	182 1 0
G. H. Gunning & Sons, The Mount, Erith*	178 18 6

Picardy Schools, Belvedere.

F. Spencer & Son, Erith*	190 9 6

Bedonwell-road Schools, Northumberland Heath, Belvedere.

H. Vaughan	£140 0 0
G. Finney & Son	41 9 6
G. Wyman	36 0 0
W. G. Hellyer	34 10 0
G. H. Gunning & Sons, Erith*	25 18 0

FAREHAM.—For the extension of water mains, for the Urban District Council. Mr. Walter Butler, Engineer, Council Offices, Quay-street, Fareham:—

W. Ward	£2,826 0 0	Rowell & Sons	£2,091 12 0
W. Radford	2,735 12 6	J. G. Rutter & Sons	2,076 0 9
H. Plummer	2,674 0 0	T. Turner	1,992 19 9
Cunningham Forbes & Co.	2,210 11 2	Jenkins & Son, Leamington*	1,931 13 8

HENDON.—For reconstruction of main outfall sewers, Cannon's-lane, Pinner, for the Rural District Council. Mr. J. A. Webb, Engineer, Stanmore:—

D. Seamans	£3,046 4 3	A. B. Champniss	£2,348 0 0
C. Ford	2,994 0 0	E. T. Bloomfield	2,218 6 5
G. Wimpey & Co.	2,802 8 10	G. Harber, East Ham*	2,026 10 3
H. Brown	2,464 0 0		
G. G. Rayner	2,350 15 8		
C. W. Killingback & Co.	2,348 14 10		

HENDON.—For fully making-up Rowsley-avenue, Hendon, for the Urban District Council. Mr. S. Slater Grimley, Engineer:—

R. Ballard, Ltd.	£856 15 3
F. Fowles	843 15 6
A. B. Champniss	797 15 0
T. Adams, Wood Green*	792 8 6

HENDON.—For a pair of workmen's cottages, Brent Farm, Hendon, for the Urban District Council. Mr. S. Slater Grimley, Engineer and Surveyor:—

W. S. Bushnell	£620 0	F. Perren	£504 0
W. Tout	545 0	F. King*	477 10

HULL.—For erecting additional classroom at West Dock-avenue Council School, for the Education Committee. Quantities by the City Architect:—

Hull General Builders, Ltd.	£643 15 8
Barker & Son	634 6 6
G. Jackson & Sons	596 3 0
J. Thompson & Son	568 11 11
G. Blackburn	558 0 0
J. Boyce	555 1 7
H. T. Arnott	536 16 0
G. Houlton	534 0 0
Executors of J. E. Train	523 18 0
M. Harper	507 17 0
Executors of T. Southern	486 3 3
J. Morrell & Sons	483 12 0
J. H. Fenwick	480 0 0
J. Simpson & Son	476 13 11
E. Good & Sons, Ltd.	470 0 0
J. R. Woods	447 17 1
H. J. Kirkwood	440 18 7½
F. Beilby, St. George's-road, Hull*	439 0 0

LANCASTER.—For re-building No. 31, Penny-street, for Mr. J. W. Gorrill. Mr. J. Parkinson, architect, Lancaster. Quantities by architect:—

Masonry: W. Harrison's Executors, Lancaster
Joinery: R. Thompson, Lancaster
Slating and Plastering: Gardner Bros., Lancaster
Plumbing and Glazing: Harrison & Moser, Lancaster
Painting: Meadowcrofts, Lancaster
£677 11 3

LEAVESDEN.—For erecting twenty-two cottages for married attendants at Leavesden Asylum, near Watford, for the Metropolitan Asylums Board. Mr. W. T. Hatch, Engineer-in-chief. Quantities by Messrs. W. H. Barber & Son, 22, Buckingham-street, Adelphi, W.C.:—

G. W. Johnson	£9,850	W. & D. Wilkins	£7,357
Shrouder & Matthews	8,328	H. Kent	7,250
Martin, Wells & Co., Ltd.	8,275	A. Faulks	7,240
East & Hyde	7,999	H. Martin	7,142
Chas. Wall, Ltd.	7,983	G. & J. Waterman	7,134
Gardner & Hazell	7,961	Bracey & Clark	6,983
Aldridge & Son	7,896	Clark Bros.	6,947
Oak Building Co., Ltd.	7,735	J. Honour & Son	6,900
Wm. Judge	7,600	J. Wilmott & Sons	6,886
J. & J. Goss	7,560	Vail & Williamson	6,846
Enness Bros.	7,390	G. Wiggs, 90, St. Albans-road, Watford*	6,600

LEYTON.—For laying tar-paving to playgrounds at Farmer-road School, and repairs and redressing of tar-paving at two schools, for the Education Committee. Mr. W. Jacques, architect, 2, Fen-court, Fenchurch-street, E.C.:—

Farmer-road School Tar-paving.

Goddard & Co.	£1,032 14 8
North of England Asphalte Co.	932 14 8
Hobman & Co.	860 0 5
Constable & Co.	845 0 0
Wainwright & Co.	723 8 0
La Brea Asphalte Co., Birmingham*	623 9 4

Redressing Tar-paving Capworth-street and Mayville-road Schools.

	Capworth-street.	Mayville-road.
La Brea Asphalte Co.	£108 1 3	£84 12 3
Constable & Co.	58 0 0	47 0 0
Goddard & Co.	49 10 0	43 15 0
Hobman & Co.	65 0 0	52 0 0
J. Smart	63 0 9	50 5 6
Wainwright & Co., Belgrave-road, S.W.*	46 15 5½	35 14 3

LEYTON.—For improvements to exits of seven schools, for the Education Committee. Mr. W. Jacques, architect, 2, Fen-court, Fenchurch-street, E.C.:—

	Downsell-road.	Harrow-green.	Kirkdale-road.	Lea Bridge-road.	Mayville-road.	Ruckholt.	Trumping-ton-road.
F. J. Coxhead	£ s. d. 32 5 0	£ s. d. —	£ s. d. 137 0 0	£ s. d. 10 1 0	£ s. d. 13 7 6	£ s. d. 17 5 0	£ s. d. 17 0 0
Gregan & Son*	24 0 0	29 0 0	119 0 0	6 0 0	7 0 0	13 0 0	13 0 0
S. Kind	45 0 0	35 10 0	127 10 0	8 15 0	12 7 6	16 0 0	—
W. J. Maddison	—	39 0 0	—	10 5 0	—	—	27 15 0
Proctor & Son	56 1 8	47 15 0	195 11 6	20 15 0	24 15 0	31 5 0	32 15 0
Vigor & Co.	32 10 0	44 0 0	156 0 0	13 0 0	17 10 0	26 10 0	9 5 0
Woollaston Bros.	40 0 0	52 10 0	—	29 0 0	30 0 3	50 0 0	20 0 0

LEYTON.—For cleaning, painting, repairs and improvements to schools, and erecting boundary-walls to Church-road School, etc., for the Education Committee of the District Council. Mr. W. Jacques, architect, 2, Fen-court, Fenchurch-street, E.C.:—

Newport-road School—Painting Drill Hall Roof, and Improvements to Girls' Staircase and Exits.

Vigon & Co.	£215 0	S. Kind	£165 0
Stedman & Co.	210 10	Gregar & Son	163 0
Proctor & Son	207 0	Woollaston & Co.	160 0
H. Wilson	203 0	F. J. Coxhead, Leytonstone*	152 0
W. J. Maddison	178 0		

Painting Exteriors, etc., Church-road and Goodall-road Schools.

	Church-road.	Goodall-road.
R. Athey	£229 10 6	£268 9 6
Chapman & Sturton	—	200 0 0
A. E. Clark	177 0 0	196 0 0
F. J. Coxhead	226 0 0	215 0 0
Gregar & Son	343 0 0	263 0 0
H. C. Horswill	187 0 0	193 0 0
W. J. Maddison	153 0 0	—
Proctor & Son	254 0 0	216 0 0
Simmons & Co.	—	223 0 0
Stedman & Co.	207 0 0	215 0 0
Vigor & Co.	214 0 0	222 0 0
Woollaston Bros., Stratford	146 0 0*	160 0 0*
Woollaston & Co.	275 0 0	216 0 0

Church-road School—Boundary-wall.

Woollaston & Co.	£285 0	F. J. Coxhead	£152 0
S. Kind	275 0	Vigor & Co.	142 0
Proctor & Son	189 0	W. J. Maddison	138 0
Woollaston Bros.	188 0	Stedman & Co.	138 0
H. C. Horswill	160 0	W. Gregar & Son*	124 0
H. Wilson	160 0		
Sands, Palmer & Co.	154 15		

LITTLEHAMPTON.—For providing and laying 450 yds. of 3-in. cast-iron water mains, etc., for the Urban District Council. Mr. H. Howard, Surveyor, Town Offices, Littlehampton. Quantities by Surveyor:—

D. & J. Hall	£201 4 10	M. Webb, Stoke Newington*	£147 11 8½
Duke & Ockenden	175 0 0		

LLANTEGLOS-BY-FOWEY.—For constructing 584 ft. of 9-in. stoneware and 126 ft. iron sewers, and five manholes and two ventilators, at Polruan (total, 710 ft.), for the Liskeard Rural District Council. Mr. Edwin Mallett, Sanitary Inspector, Pendruffle, Duloe, R.S.O., Cornwall:—

T. Doney	£129 12 10	S. Libby, Polruan, Fowey*	£103 16 6
J. Hooper	124 18 5		

LONDON.—For painting and decorating Hoxton Public Library in Pitfield-street, for the Shoreditch Borough Council. Mr. J. Rush Dixon, Borough Surveyor, Town Hall, Old-street, E.C.:—

A. Jaggers	£584 0 0	G. Keetch	£436 0 0
Cone & Smith	560 5 0	J. Ivory	434 0 0
Wallace & Co.	547 15 0	A. G. Rossiter & Co.	426 0 0
Sabey & Son	523 0 0	W. J. Brace	425 10 0
Gerer & Son	503 15 0	Gavin Bros.	425 8 0
Tranter & Haslewood	480 1 0	W. King & Son	418 5 0
R. Schooley & Son	480 0 0	G. D. Pearce	395 0 0
F. W. Hardy	476 5 4	J. J. Richards	358 5 0
Fowler & Co.	475 0 0	J. McArthur & Co.	343 10 0
Woollaston Bros.	462 0 0	C. Cruse	334 0 0
Campbell & Christmas	458 0 0	P. McCarthy	305 0 0
W. Read	456 0 0	J. W. Jerram	282 0 0
J. Kirkcaldy	445 0 0	J. Scott Fenn	264 19 0
Harrods, Ltd.	440 0 0	R. E. Nightingale, Albert Embankment*	239 0 0

[Borough Surveyor's estimate, £420.]

LONDON EDUCATION COMMITTEE TENDERS.

For painting or cleaning schools during summer holidays, 1904:—

Hammersmith, Addison-gardens (Painting Interior and Exterior).

Holloway Bros. (London), Ltd.	£530 0	F. T. Chinchen & Co.	£429 15
S. Polden	465 0	W. Hornett, 17, Houghton-street, Strand, W.C.*	416 0
Spencer, Santo, & Co., Ltd	462 0		
W. R. & A. Hide	435 15		

Battersea, Battersea Park-road (Painting Exterior).

J. Carmichael	£240 0	Rice & Son	£153 0
R. A. Jewell	219 0	Lathey Bros.	152 0
E. Flood	203 0	J. Garrett & Son	142 0
R. S. Ronald	180 0	E. Triggs, 92, The Chase, Clapham, S.W.*	129 0
W. Johnson & Co., Ltd.	164 10		

Poplar, British-street (Cleaning Interior).

W. Hayter & Son	£269 10 0	R. Woollaston & Co.	£194 0 0
Vigor & Co.	227 0 0	W. J. Howie, Blackheath-rd., Greenwich, S.E.*	179 0 0
W. Banks	212 17 6		

Westminster, Buckingham-gate (Painting Exterior).

W. King & Son	£140 0	J. R. Sims, 58-60, Horseferry-road, Westminster, S.W.*	£98 0
Leonard & Mason	138 0		
E. P. Bulled & Co.	120 0		
W. Chappell	115 0		
W. J. Coleman & Co.	105 6		

E. St. Pancras, Great College-street (Painting Exterior).

Patman & Fotheringham, Ltd.	£248 1 6	Marchant & Hirst, 136, Highgate-road, N.W.*	£212 0 0
F. Bull	225 0 0		
T. Cruwys	218 0 0		

E. St. Pancras, Camden-street (Special) and Medburn-street (Junior Boys) (Painting Exterior).

Patman & Fotheringham, Ltd	£109 0 0	Stevens Bros.	£87 10 0
T. Cruwys	96 9 6	Marchant & Hirst, 136, Highgate-road, N.W.*	76 0 0
F. W. Harris	89 0 0		

Whitechapel, Chicksand-street (Painting Exterior).

J. F. Holliday	£272 0	J. Haydon & Sons, 50, Tees-dale-street, Hackney-road, N.E.	£215 8
H. Bouneau	261 5		
G. Barker	250 0		
Vigor & Co.	238 10		

Norwood, Gipsy-road (Enlargement) (Painting Exterior).

H. C. Crooks	£268 10	W. J. Mitchell & Son	£119 0
H. J. Williams	186 0	J. & C. Bowyer, Westow-street, Upper Norwood, S.E.*	113 0
H. Leney & Son	167 0		
E. P. Bulled & Co.	167 0		
C. J. Jerrard	165 0		

Dulwich, Grove-vale (Painting Interior and Exterior).

Leonard & Mason	£596	J. & C. Bowyer	£364
W. V. Goad	499	E. Proctor & Son, 328, High-street, Plumstead, S.E.*	360
J. F. Ford	492		
W. Sayer & Son	454	H. Line	249
H. Leney & Son	447		

Lewisham, Hither-green (Painting Exterior, omitting portions affected by sanitary alterations).

W. Banks	£284 10	J. & C. Bowyer, Westow-street, Upper Norwood, S.E.*	£177 0
W. Hayter & Son	230 0		
W. J. Howie	208 0		

Greenwich, Hughes'-fields (Painting Exterior).

P. S. Howard	£211 15 0	H. Groves, Stockwell-st., Greenwich, S.E.*	£152 0 0
W. Banks	197 15 6		
W. J. Howie	183 0 0		
S. Musgrove	171 15 10		
C. G. Jones	157 17 0		

Peckham, Ivydale-road (Painting Interior).

Leonard & Mason	£475 0 0	H. Groves	£292 0 0
J. & C. Bowyer	349 0 0	W. Banks	274 17 6
W. Read	327 0 0	C. G. Jones	257 0 0
Holliday & Greenwood, Ltd.	317 0 0	H. Line, 185, Upper Thames-street, E.C.*	249 0 0

Hackney, Lamb-lane Special School and Hackney Correspondents' Office (Cleaning Interior of School and Painting Interior of Correspondents' Office).

H. Bouneau	£95 13	Vigor & Co.	£83 0
G. Barker	91 10	C. Willmott & Sons, Hitchin, Herts*	69 15
H. Runham Brown	88 0		

Greenwich, Lombard-wall (Painting Exterior).

P. S. Howard	£285 15 6	W. J. Howie, Blackheath-road, Greenwich, S.E.*	£237 0 0
W. Banks	279 18 0		
S. Musgrove	248 7 6		
E. Proctor & Son	238 0 0		

S. Paddington, "Moberly" (Painting Interior B, G, and I, and Cleaning Interior Special School).

Thompson & Beveridge	£726 0	Bristow & Eatwell	£347 0
Marchant & Hirst	486 0	F. Chidley & Co.	295 0
W. Chappell	465 0	A. Balfour & Co., 42, Kingsley-road, Kilburn, N.W.*	262 1
W. R. & A. Hide	428 10		
F. T. Chinchen & Co.	398 10		

Bow and Bromley, Monteith-road (Painting Interior).

Parrott & Isom	£809 0 0	Vigor & Co.	£495 10 0
H. Bouneau	612 15 6	A. J. Sheffield, 218, East India-road, Poplar-road, E.*	449 0 0
Woollaston Bros.	598 10 0		
G. Barker	575 0 0		
J. F. Holliday	554 8 0		
Barrett & Power	500 0 0		

S. Hackney, Morning-lane School and Hackney Divisional Offices (Painting Interior of School and Cleaning Interior of Divisional Offices and Special School).

H. Runham Brown	£577 0	R. Woollaston & Co.	£435 0
G. Barker	539 0	W. Silk & Son, 13, High-street, Homerton, E.*	428 10
Vigor & Co.	520 10		
W. Shurmur & Sons, Ltd.	450 0		

W. St. Pancras, Netley-street (Painting Exterior).

G. Foxley	£225 0	W. Chappell, 243, Elgin-avenue, Maida Vale, W.*	£155 0
Patman & Fotheringham, Ltd.	202 16		
Marchant & Hirst	168 0		

Battersea, Plough-road (Painting Exterior).

J. & M. Patrick	£230 0	J. Garrett & Son	£132 0
E. Flood	205 0	C. J. Jerrard, 5, The Pavement, Selhurst-road, South Norwood, S.E.*	130 0
R. E. Williams & Son	196 0		
J. Carmichael	195 0		
R. A. Jewell	193 0		
E. B. Tucker	175 0		

Woolwich, Plumstead-road (Painting Interior).

Ennis Bros.	£357 0	E. Proctor & Son	£235 0
W. Banks	297 0	H. Groves, Stockwell-street, Greenwich, S.E.*	232 9
W. Hayter & Sons	295 10		
W. J. Howie	236 0		

Central Finsbury, Risinghill-street (Cleaning Interior).

F. W. Harris	£315 0	G. S. S. Williams & Son, Richmond-street, Thornhill-road, N.	£242 0
Patman & Fotheringham, Ltd.	296 6		
F. Bull	277 11		
A. Porter	259 0		

TENDERS—*Continued on page 81.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(*For some Contracts, &c., still open, but not included in this List, see previous issues.*)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be Delivered
*Designs for Laying-out Open Space in Centre of Town	Borough of Welshpool	5*l.* 5*s.*	July 18
*Designs for New School in Poulton-road	Wallasey U.D.C.	Not stated	Sept. 30

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be delivered
Outside Painting, Upton Asylum, Chester	Committee of Visitors	H. Beswick, County Architect, Newgate-street, Chester	July 16
Painting, etc., Schools	Moss-side Education Committee	A. F. Maclure, Clerk, 36, Brazennose-street, Manchester	July 17
Schoolroom	.....	A. L. Thomas, Architect, Pontypridd	July 18
Alterations, etc., Baptist Ch., Tonteg, Llantwit-Vardre	.....	do.	do.
350 Steel Tramway Poles	Manchester Tramways Committee	J. M. M'Elroy, Tramways Department, 55, Piccadilly, Manchester	do.
Twenty Miles of Hard-drawn Copper Trolley Wire	do.	do.	do.
6,000 yds. of 2-in. Steam Tube, etc.	do.	do.	do.
Thirty-six Working-class Dwellings, Sallynoggin	Kingstown U.D.C.	M. A. Manning, Town Clerk, Town Hall, Kingstown, Ireland	do.
Fourteen do. do.	do.	do.	do.
Works, Highroad Well-road	Halifax Corporation	J. Lord, Borough Engineer, Town Hall, Halifax	do.
Police Station at Darfield, near Barnsley	West Riding County Council	J. Vickers Edwards, County Architect, Wakefield	do.
Traction Switchboard	Lincoln Corporation	S. Clegg, City Elec., etc., Engineer, Brayford Side North, Lincoln	do.
Tramway Feeder Tables	do.	do.	do.
Boiler at Infirmary, Mayday-road, Thornton Heath	Croydon Guardians	F. West, 23, Coombe-road, Croydon	do.
Stores	Madras Railway Company	W. H. Cole, 61, New Broad-street, London, E.C.	do.
Keasden Water Supply Works	Settle R.D.C.	T. A. Foxcroft, Engineer, Town Hall, Settle	do.
Infants' School at Gendros, near Swansea	Glamorgan County Council	Gowerton Police Station	do.
Laundry at the Gelligaer Boys' School, Pengam	do.	T. M. Franklin, Clk., County Council Offices, Westgate-st., Cardiff	do.
Alterations to Workshops, Thornbury Car Depôt	Bradford Corporation	F. E. P. Edwards, City Arch., Whitaker-bldgs., Brewery-st., Bradford	do.
Wheel Lathe	G.N. Ry. Co. (Ireland)	T. Morrison, Sec., Amiens-street Terminus, Dublin	do.
Milling Machine	do.	do.	do.
Two Drilling Machines	do.	do.	do.
Sawing Machine	do.	do.	do.
Footpath	Altofts U.D.C.	District Council Offices, Altofts	do.
Painting and Repairing Corporation Property	Stratford-on-avon Corporation	Roden Dixon, Borough Surveyor, Municipal Offices, Stratford	do.
Laying-out Cemetery, Llandilo, Talybont	Burial Board	Mr. White, Caecerrig, Pontardulais	do.
500 tons Cast-Iron Water Pipes	Workington Corporation	W. L. Eaglesfield, Borough and Waterworks Engineer, Workington	do.
Alterations, etc., Caretaker's House at Sewage Works	Normanton U.D.C.	At Offices of Council	do.
Brick Boundary Wall, Snydale-road	do.	do.	do.
Machine Tools at Power Station	Preston Corporation	W. H. Tittensor, Eng., Tram. Power Sta., Holmrook-rd., Preston	do.
Extension, etc., of Bryncoch Schools, near Neath	.....	J. Cook Rees, Architect, Neath	do.
Painting, etc., at Mutton Cove, etc., Piers	Devonport Borough Council	J. F. Burns, Borough Surveyor, Municipal Offices, Devonport	do.
Extension of Engine Room	Rochdale Electricity Committee	C. C. Atchison, Engineer, Electricity Works, Rochdale	do.
Making-up Street Passages	Stretford U.D.C.	E. Worrall, Surveyor, Council Offices, Old Trafford	July 19
Footbridges, Box, Minety and Churston	G.W. Ry.	Engineer, Paddington Station, London	do.
Pit Wood for Colliery Use	do.	G. K. Mills, Sec., Paddington, London	do.
Refreshment Rooms and Office, Carmarthen	do.	Engineer, Neath Station	do.
Hand Reversible 3-wire Battery Booster, etc.	Wigan Corporation	J. Slevin, Borough Electrical & Tr'way Engr., Bradford-pl., Wigan	do.
Compound-wound Double Field Balancer	do.	do.	do.
Cables	do.	do.	do.
Artesian-bored Tube Well, Clophill, Beds.	Ampthill U.D.C.	A. T. Trethewy, Clerk, U.D.C. Offices, Ampthill	do.
Public Covenience, Park Row, Bristol	Bristol Sanitary Committee	T. H. Yabbicom, City Engineer, 63, Queen-square, Bristol	do.
Danger-posts and Symbols for Roads	Glamorgan County Council	T. Mansel Franklin, County Council Offices, Westgate-st., Cardiff	do.
500 yds. of Water Main, Heads Nook	Carlisle R.D.C.	Inspector, 7, Victoria-place, Carlisle	do.
Twelve Dwelling-houses in Margery-street, Carlisle	Mr. W. Johnstone	Johnstone Bros., Architects and Surveyors, 39, Lowther-st., Carlisle	do.
Eighteen Closet Pans and Fittings, Sligo	Committee of Dist. Lunatic Asylum	At the Asylum	do.
Gas Connexions, etc., Cwm School	Swansea School Board	School Board Offices, Dynevor-place, Swansea	do.
Lime, Tubes, and Fittings, etc.	Heywood Gas Committee	W. Whatmough, Gas Manager, Heywood	do.
Jam Works in the Least Market, Huddersfield	.....	B. Stocks, Architect, St. Peter's-street, Huddersfield	do.
Chimney Stack at Gasworks, Banchory	.....	Gasworks	do.
Painting Model Dwellings, etc.	Shoreditch Borough Council	J. Rush Dixon, Borough Surveyor, Town Hall, Old-street, E.C.	do.
*Underground Convenience, Fleet-street	Corporation of London	Engineer, Public Health Department, Guildhall, E.C.	do.
*Sewer Work	do.	do.	do.
130 tons of Cast-Iron Sewer Pipes	Leith Town Council	Borough Surveyor's Office, Charlotte-street, Leith	July 20
Piling and Extending Outfall Sewer at Seafield	do.	do.	do.
Wright Work Fittings, Woodside Library	Glasgow Corporation	J. R. Rhind, Architect, 67, Hope-street, Glasgow	do.
Thirty Railway Waggons	do.	J. G. Munro, Town Clerk, City-chambers, Glasgow	do.
Fire Alarms, Darenth Asylum, Dartford	Metropolitan Asylumns Board	Office of the Board, Embankment, E.C.	do.
Telephones, Eastern Hospital, Homerton, N.E.	do.	do.	do.
Telephones, Western Hospital, Fulham, S.W.	do.	do.	do.
Painting and Cleaning Hospital, Aikin-street	Warrington Health Committee	Office of Borough Surveyor, Town Hall, Warrington	do.
Sprinkler Tower, Stansfeld Mills, Triangle, nr. Halifax	.....	W. Clement Williams, Architect, 29, Southgate, Halifax	do.
Reconstructing Seven Cottages, Albert-road, Consett	Consett Iron Co., Ltd.	E. O. Oliver, F.S.I., Company's Office, Consett	do.
Cement Footpaths, etc., Allendale Cottages	do.	do.	do.
Improvement of Main Road at Brynna	Glamorgan County Council	T. Mansel Franklin, County Council Offices, Westgate-st., Cardiff	do.
Widening Abernant Bridge, Glyn-Neath	do.	do.	do.
Alterations, etc., Dinas Powis National School	The Managers	W. H. Dashwood Caple, Architect, Church-street-chamb., Cardiff	do.
600 yds. of Steel Fencing & Gates, Whitchurch Asyl.	Cardiff Corporation	W. Harpur, Borough Engineer, Town Hall, Cardiff	do.
Pair of Cottage Homes, Swinton	Manchester Guardians	A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester	do.
Telephones at Hospitals and Nurses' Home	Ashton-under-Lyme Guardians	J. Eaton, Sons, & Cantrell, Architects, Stamford-street, Ashton	do.
Removing 30,500 cubic yds. of Deposit, Steeping River	Witham Drainage General Commiss.	J. H. Johnson, Engineer, Witham Office, Boston	do.
Removing 19,000 yds. Deposit, Fodder Dyke Drain	.....	do.	do.
Unclimbable Iron Fencing at Workhouse	St. Albans Guardians	Master of Workhouse	do.
Outbuildings, National School, Aberystwyth	.....	G. T. Bassett, Architect, Aberystwyth	do.
Cast-Iron Outlet & Inlet Pipes, Canoe Lake, Southsea	Portsmouth Corporation	Borough Engineer, Town Hall, Portsmouth	do.
5,000 Tons of Portland Cement	Blackpool Highway Committee	J. S. Brodie, Boro' Engineer, Town Hall, Blackpool	do.
Cast-Iron Mains and Irregulars	Stockport Gas, etc., Committee	S. Meunier, Engineer, Stockport	do.
200 Tons of Cast-Iron Pipes, etc., Alnwickhill	Edinburgh & District Water Trustees	W. A. Tait, C.E., 72A, George-street, Edinburgh	July 21
Sewers & Laying Kerbstones (for 3 & 1 years respectively)	Leeds Corporation	T. Hewson, City Engineer, Municipal Buildings, Leeds	do.
Additions to 135, Bute-st., Treorky, Rhondda Valley	Mr. J. Y. Evans	W. D. Morgan, Architect, Victoria-chambers, Pentre	do.
Cast-Iron Pipes	Poulton-le-Fylde U.D.C.	R. Dutton, Clerk, Tithebarn-st., Poulton-le-Fylde, near Preston	do.
Road Works, Law-street and Ashworth-street	Denton U.D.C.	G. H. Newton, Surveyor, Town Hall, Denton	do.
1,046 yds. of Cast-Iron Water Pipes	St. Austell R.D.C.	T. H. Andrew, Engineer, 1, Trevarrick-villas, St. Austell	do.
Eighteen Portable Standposts with Water Meters	Rhondda U.D.C.	W. J. Jones, Engr. and Surveyor, Public Offices, Pentre Rhondda	do.
*Painting, etc., Western Pumping Station, Pimlico	London C.C.	Council's Chief Engineer, County Hall, Spring Gardens, S.W.	July 22
Machinery Oils	Dublin Corporation	H. Campbell, Town Clerk, City Hall, Dublin	do.
Building a Bridge over Aske Beck	Richmond (Yorks) R.D.C.	J. Hodgson, District Surveyor, North Cowton, Darlington	do.
Cables, Troughing, Boxes, etc.	Walthamstow U.D.C.	J. Enright, Engineer, 68, Lincoln's-inn-fields, W.C.	do.
Painting Shop Fronts, Aylesbury	Co-operative Society	Office of Society, Railway-street, Aylesbury	do.
Additions to Tivetshall School	Norfolk Education Committee	A. J. Lacey, Architect, Upper King-street, Norwich	July 23
Workshop, Offices, and House, Calverley	Anti-Vibration Incand. Lighting Co.	39, Prudential-buildings, Leeds	do.
Sixteen Tenement Dwellings, Getley-st. & Egerton-st.	Birkenhead Corporation	C. Brownridge, Borough Engineer, Town Hall, Birkenhead	do.
Alterations, Mendlesham Endowed School	.....	Rev. E. Foyle Randolph, Mendlesham Vicarage	do.
Painting, etc. Boys' School, Newport-road, Cardiff	The Governors	D. Shepherd, Clerk, 5, St. John-square, Cardiff	do.
Wood and Iron Shelter, Intermediate School, Cardiff	do.	do.	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be delivered
Two roads, 16 yds. wide & a back road, Thornton-rd.	.....	Smith & Gotthardt, Surveyors, 15, Cheapside, Bradford	July 23
Wiring Pendleton Town Hall	Salford Corporation	Borough Electrical Engineer, Frederick-road Works, Pendleton	do.
Widening Bridge over Sirhowy River	Bedwellty U.D.C.	J. H. Lewis, Surveyor, Blackwood, Mon.	do.
Street Watering-cart (500 gallons)	Swinton and Pendlebury U.D.C.	W. T. Postlethwaite, Clerk, Council Offices, Swinton	do.
Horse Sweeper	do.	do.	do.
Six Back Kitchens, etc., Railway-ter., Kenfig-hill Stns.	.....	Mason's Arms, Kenfig Hill	do.
Heating Congregational Chapel, Cleckheaton	Trustees, Westgate Congre. Chapel	B. Roberts, Nutter-street, Cleckheaton	do.
Additions, Ashwood Pumping Station, Kingswinford	S. Stafford Water Works Co.	H. A. Hill, Engineer, Paradise-street, Birmingham	do.
Extension of Refuse Destructors, Durnsford-road	Wimbledon U.D.C.	Engineer and Surveyor, Council Offices, Wimbledon	July 25
Repairs, Council and Non-Provided Schools	Widnes Education Committee	Education Department, Town Hall, Widnes	do.
Making-up Ellerton and Tolworth Park-roads	Surbiton U.D.C.	J. Bell, Clerk, Council Offices, Ewell-road, Surbiton	do.
Vestry, and Renovating Jerusalem Chapel, Rhymney	.....	P. H. Vivian Jones, Architect, Hengoed	do.
Fire Brigade Station, Seaside-road, West Marina	Hastings Corporation	P. Palmer, Borough Engineer, Town Hall, Hastings	do.
800 Yards Stoneware Pipe Sewer, etc.	Richmond (Surrey) Town Council	J. H. Brierley, Borough Surveyor, Town Hall, Richmond	do.
Roadmaking, Jackson-st. and Holloway-st., Oldhill	Rowley Regis U.D.C.	D. Wright, Council Offices, Lawrence-lane, Old-hill, Staffs.	do.
*Roadmaking and Sewer Works	Hornsey Town Council	Borough Engineer, Southwood-lane, Highgate, N.	do.
Alterations, etc., to Infants' Department	Guildford Education Committee	E. L. Lunn, Architect, 36, High-street, Guildford	July 26
Making-up Boys' Playground, Charlotteville Schools	do.	do.	do.
Whitening and Colouring Walls and Ceilings	do.	do.	do.
Roadworks, Boston-street	Sowerby Bridge U.D.C.	Surveyor's Office, Town's Buildings, Sowerby Bridge	do.
Lagging Steam and Hot-water Pipes at Workhouse	Wolverhampton Guardians	F. Harrison, Clerk, Union Offices, St. Peter's-cl., Wolverhampton	do.
Alterations, etc., Council Schools	Aberdare Education Committee	J. Morris, Clerk, Town Hall, Aberdare	do.
Seventeen Locomotives and Tenders	S. India Ry. Co.	H. W. Notman, 55, Gracechurch-street, London, E.C.	do.
Farm-buildings, Blakeley Lodge, Etwall	Burton-on-Trent Corporation	G. T. Lynam, Borough Engineer, Town Hall, Burton-on-Trent	do.
Road Materials	Dover Town Council	Town Clerk, Castle Hill House, Dover	do.
*Wood Paving in Malvern-road, Kilburn	Willesden D.C.	Engineer to the Council, Public Offices, Dyne-road, Kilburn, N.W.	do.
*Roadmkg., etc., Wellington-st., Ch'berlayne Wood-rd.	do.	do.	do.
*Making-up Kingsland, Olive, Patrick, & Coronat'n-rds.	C.B. West Ham	Borough Engineer, Town Hall, West Ham, E.	do.
*Uniforms	do.	do.	do.
*Street Improvement Works	Bromley Borough Council	Borough Engineer, Bromley, Kent	do.
Ten Cottages, Chatsworth-road, Gillingham, Kent	.....	E. J. Hammond, Architect, 21, Balmoral-road, Gillingham	July 27
*Electric Fire Alarm Bells at Homerton	Hackney Guardians	Clerks' Offices, Sidney-road, Homerton, N.E.	do.
*Supply of Broken Granite, Gravel, and Hoggin	Barnet U.D.C.	.....	do.
*New Chapel at Edmonton Workhouse	Edmonton Guardians	T. E. Knightley, Architect, 106, Cannon-street, E.C.	do.
Temporary School for 600, Hyde-road	Gorton Education Committee	J. W. Wiles, Surveyor, Town Hall, Gorton	July 28
Mortuary and Post-mortem room	Kent and Canterbury Hospital	W. J. Jennings, Architect, 4, St. Margaret-street, Canterbury	do.
*Erection of Law Courts at Town Hall	Kingston-on-Hull Corporation	City Treasurer, Town Hall, Hull	do.
*Science and Art Buildings, Church-street	Govrs. of Tewkesbury Gram. School	Borough Surveyor, Tewkesbury	July 29
*New Coastguard Buildings at Blatchington	Admiralty	Works Dept., Admiralty Office, 21, Northumberland-av., W.C.	do.
Car Depot, Heavitree-road (Substructure)	Exeter Corporation	T. Moulding, City Engineer, 7, Southernhay West, Exeter	July 30
Street Works, Williams-street, Highgate, Bolton	Bolton-on-Dearne U.D.C.	Surveyor, Council Office, Bolton-upon-Dearne, Rotherham	Aug. 1
Library, Weld-road, Birkdale	Birkdale U.D.C.	G. Brown, Architect, 1, Dover-road, Birkdale	Aug. 2
Extension of Infirm. Wards, Withington Workhouse	Chorlton Guardians	C. Clegg & Son, Architects, 104, King-street, Manchester	Aug. 3
Boundary Wall, Weymouth-road, Dorchester	Dorchester Burial Board	F. T. Maltby, Architect and Surveyor, Dorchester	do.
*New Post Office at Hanley	H.M. Office of Works	H.M. Office of Works, Storey's Gate, Westminster, S.W.	do.
*New Coastguard Buildings at Jury's Gap, Sussex	Admiralty	Works Depart., Admiralty Office, 21, Northumberland-avenue, W.C.	Aug. 5
*Add. to Kent County Lunatic Asylum, Barming Heath	Kent County Asylums Committee	W. J. Jennings, 4, St. Margaret-street, Canterbury	Aug. 9
Machinery for Waterworks	Chippenham U.D.C.	A. E. Adams, Waterworks' Engineer, Council Offices, Chippenham	Aug. 10
Church Bell Tower, Cloughjordan, co. Tipperary	.....	Rev. J. Castigan, Parochial House	Aug. 15
Pumping Plant	L.C.C.	County Hall, Spring Gardens, S.W.	Oct. 4
Repairs, Alterations, etc., St. Paul's Church	Addleston Building Committee	A. Veness, Architect, Clun House, Surrey-street, Strand	No date
2 Pairs Cottages, Alma Lodge Est., Terrington Marsh	.....	Walker & Walker, Architects, 2, Hill-street, Wisbech	do.
Decoration of Read Parish Church	.....	Vicar Read, near Blackburn	do.
Three Terrace Houses	.....	Shannon, White, & Co., 86 and 88, Shankill-road, Belfast	do.
Villa, Bridlington	.....	H. Phillips, Architect, Cottingham	do.
Vicarage House, St. Paul's, Foleshill	.....	Lingen Barker, Architect, 146, St. Owen's Street, Hereford	do.
Cycle and Motor Works	.....	Groome & Bettington, Architects, Palace-chbrs., King-st., Hereford	do.
Alteration to Premises, 116, St. Owen-st., Hereford	Mr. A. W. Marriott	do.	do.
Slating of Seven Houses at Rothwell	do.	J. Armitage & Bros., "Robin Hood" Quarries, near Wakefield	do.
Taking-up & Relaying Floor, Ilam School, Ashbourne	.....	Ilam School, Ashbourne	do.
Cold-Water Supply, York City Asylum	Committee of Managers	A. Creer, City Engineer, Guildhall, York	do.
Operating Theatre at North Infirmary, Cork	.....	A. Hill, F.R.I.B.A., 22, George's-street, Cork	do.
Corrugated Buildings (120 ft. by 25 ft.)	.....	The Steward at the Club	do.
Alterations, etc., to Infirmary Wards at Workhouse	.....	A. Marshall, Architect, King-street, Nottingham	do.
*Rebuilding Nos. 43 and 45, Above Bar, Southampton	East Ardsley Working Men's Club	W. B. Hill, Architect, 81, Above Bar, Southampton	do.
	Dudley Guardians		
	"Hampshire Advertiser," Co., Ltd.		

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*Clerk of Works	U.D.C. of Handsworth	3½ guineas per week	July 19
*Borough Surveyor	Borough of Chesterfield	300*l.* per annum	July 21
*Quantity Surveyor	New Windsor Borough Council	Not stated	July 25
*Assistant Town Treasurer	Durban (Natal) Corporation	600*l.*	Aug. 3

** Those marked with an asterisk (*) are advertised in this Number.* *Competitions*, iv. *Contracts*, iv. vi. viii. x. *Public Appointments*, xvi. xvii.

TENDERS.—*Continued from page 79.*

LONDON EDUCATION COMMITTEE *continued* :—

Clapham, Tennyson-street (*Painting Interior enlargement, Cleaning Interior old portion, and Painting Exterior all buildings*).

Holliday & Greenwood, Ltd.	£749	W. Johnson & Co., Ltd.	£489
E. Flood	653	J. Garrett & Son	419
W. King & Son	585	J. Carmichael	406
R. S. Ronald	530	E. Triggs, 92, The Chase, Clapham*	387
E. P. Bulled & Co.	497		

Central Hackney, Tottenham-road (*Cleaning Interior PT and JM*).

W. Hornett, 17, Houghton-st., Strand, W.C.*	£173 5 0	J. Grover & Son	£227 0 0
G. S. S. Williams & Son	223 0 0	C. Dearing & Son	243 0 0
		H. Bouneau	318 5 0
		F. W. Harris	425 0 0

Fulham, Townmead-road (*Iron Buildings*) (*Cleaning Interior and Painting Exterior*).

E. B. Tucker, 82, Lavender-hill, S.W.*	£ 65	C. Girling	£150
J. & M. Patrick	112	W. Hammond	157
R. S. Ronald	120	Lathey Bros.	180
		General Builders, Ltd.	195

Fulham, William-street (*Cleaning Interior and Painting Exterior, Infants and Pupil Teachers'*).

W. Hammond	£277 0	F. Chidley & Co., 56, Lydford-rd., Harrow-rd., W.*	£150 0
W. E. & A. Hide	236 0		
S. Poldon	212 17		
F. T. Chinchen & Co.	207 0		

S.W. Bethnal Green, Wilmot-street (*Painting Exterior*).

Parrott & Isom	£398 0	J. Haydon & Sons	£235 8
A. Heard & Co.	342 0	C. Willmott & Son, The Triangle, Hackney, N.E.*	227 0
Stevens Bros.	296 10		
W. Martin	265 0		
H. Runham Brown	245 0		

Central Hackney, Wilton-road (*Cleaning Interior*).

F. W. Harris	£322 0	C. Willmott & Son	£272 0
Barrett & Power	300 0	H. Runham Brown, 107, Downs-road, Clapton, N.E.	209 0
G. Barker	296 0		
McCormic & Son	283 0		
H. Bouneau	276 10		
J. Grover & Son	273 0		

N. Islington, Yerbury-road (*Painting Exterior*).

C. Dearing & Son	£380 0	F. W. Harris	£189 0
W. Martin	250 0	Marchant & Hirst, 136, Highgate-road, N.W.	177 0
McCormic & Son	248 0		
Stevens Bros.	246 0		
J. Grover & Son	220 0		

Fulham, William-street School.

(*a*) That Mr. F. G. Minter be allowed to withdraw his tender for carrying out improvements at the William-street School.

(*b*) That the estimate, No. 4,217, of £4,939, submitted by the Finance Committee, be approved; that expenditure not exceeding that amount be sanctioned in respect of improvements at William-street School, Fulham; that, as soon as the Board of Education shall have approved the finished plans, the tender of Messrs. Leslie & Co., amounting to £4,704, be accepted.

For Removal of Two Iron Buildings now standing on the Telferscot-road site, Clapham, and One Iron Building on the Ensham-street site, Tooting, and for Re-erecting the Three Buildings on the site in Fountain-road, Wandsworth :—

T. Cruwys	£1,775 0 0	Humphreys, Ltd.	£1,350 0 0
R. Iles, Ltd.	1,771 0 0	A. Leather	1,332 0 0
Mitson & Harrison	1,718 3 6	W. Harbrow	1,290 0 0
J. McManus	1,473 0 0	F. Smith & Co., Carpenter's-road, Stratford*	1,269 0 0
T. J. Hawkins & Co.	1,370 0 0		

For the Heating of the London County Council Poplar Technical Institute, including Installation of the Experimental Plant in Conjunction with the Ordinary Heating Appliances, and the Installation of the Electric Light of the Institute :—

For the Installation of the Ordinary and Experimental Heating Plant.

Wenham & Waters	£1,610	Strode & Co., 48, Osnaburgh-street, N.W.*	£1,043
Simpson & Co.	1,130		

For the Installation of the Electric Light.

Peacock & Jessop	£950	Electrical & General Engineering Co.	£718
Mossop & Co.	940	Alliance Electrical Co., 137, Regent-st., W.*	666
J. H. Holmes & Co.	790		
Drake & Gorham	787		
Wenham & Waters	770		

LONDON.—For the erection of cottages, Totterdown-fields estate, for the London County Council:—

	per cent. above the schedule.
F. G. Minter, Ferry Works, Putney	10
J. Rudd & Son, Grantham	7½
Holloway Bros. (London), Ltd., Belvedere-road, S.E.	7½
John Barker & Co., High-street, Kensington	2½
H. Lovatt, Ltd., London and Wolverhampton	1½
	per cent. below the schedule.
F. & H. F. Higgs, Station Works, Loughborough-junction*	3

NEW ROMNEY (Kent).—For erecting casual working cells, infirmary, bathroom, and water-closets, etc., at the workhouse, for the Romney Marsh Guardians. Mr. Thurlow Finn, architect, Guildford:—

G. Browning	£410	0	0
Killingback & Hutchinson	351	10	0
C. J. Howland	349	3	2
J. E. Hughes	£340	0	0
G. H. Hatten South Ashford, Kent*	333	11	4

PADIHAM (Lancs).—For extension of Unitarian School, Knight Hill, for the Building Committee of the Trustees of Unitarian Chapel, Padiham. Mr. Arthur Dodgeon, surveyor, Whalley-road, Altham, Accrington:—

Mason, Concretor, etc.: J. & G. Duxbury	£557	10	0
Carpenters, Joiners, etc.: Lund & Davies	179	0	0
Plastering: Foster & Sons	57	5	0
Slating: Foster & Sons	95	9	0
Painting: C. Dixon	18	18	0
Plumbing: J. W. Whitehead	96	10	0

[Contractors all of Padiham.]

PILLING (Lancs).—For erecting the Golden Ball Hotel, for Mr. E. G. S. Hornby. Mr. J. Parkinson, architect, 67, Church-street, Lancaster. Quantities by architect:—

Bricklaying, etc.: Waterworth & Sons, Lancaster*	£2,489 4 6
Joinery: Richardson's Exors., Lancaster*	
Slating and Plastering: Cross & Sons, Lancaster*	
Plumbing and Glazing: Rushton & Pinch, Lancaster*	
Painting: Swainson & Sons, Lancaster*	

PRESTON.—For paving, etc., Burrow-road, for the Corporation:—

Chadwick Bros., 60, Whalley-road, Blackburn	£1,203 5 6

RUSTINGTON.—For road-making and tar-paving works at Millfield Homes, Rustington, near Littlehampton, for the Metropolitan Asylums Board. Mr. W. T. Hatch, Engineer-in-chief:—

E. H. King	£535	Grounds & Newton, Page Green-road, South Tottenham*	£400
J. Russell	488		
Peerless, Dennis, & Co.	478		

SHOREHAM.—For forming new footway in Lower-road, for the Urban District Council. Mr. A. W. Nye, Town Surveyor, Town Hall, Shoreham:—

E. H. King	£200	0	0
C. J. Kerridge	189	10	0
W. Whiteman	186	0	0
W. McKellar	181	0	0
D. & J. Hall	£169	2	6
G. & S. Curd, Shoreham*	134	10	0

STAPLEFORD.—For making Lawrence-street and Albert-street, for the Rural District Council. Mr. H. R. Hawley, surveyor, Wood-street, Ilkeston:—

F. Whitelocke	£480	0	
C. E. Cox	413	13	
J. Thraves & Son, Stapleford, Notts*	£339	0	

STIFFORD (Essex).—For works for the collection and storage of rain-water at Children's Homes, for the Stepney Guardians. Mr. F. T. Baggallay, architect. Quantities by Mr. F. R. Smith, 13, Victoria-street, Westminster:—

C. Wall, Ltd., Chelsea	£2,056

THATCHAM.—For building a police station, for the Standing Joint Committee of the County of Berks, according to the plans prepared by Mr. J. Morris, County Surveyor, Broadway-buildings, Reading:—

Capel & Sons	£1,730	10	0
Wm. Stokes, jun.	1,433	0	0
Wm. Hawkins	1,360	0	0
Jas. Wigmore	1,331	10	0
G. H. Tucker	1,284	0	0
Batten Bros.	1,260	0	0
Hoskings Bros.	1,232	0	0
Margetts & Son	£1,229	0	0
Smallbone	1,198	0	0
Goodall & Sons	1,176	0	0
E. McCarthy	1,149	0	0
Jolly & Palmer	1,133	6	6
T. James	1,118	10	0
Elms & Son, Newbury*	1,099	15	0

[County Surveyor's estimate, £1,156 8 0.]

WALTHAMSTOW.—For erecting Warwick-road School Buildings, etc., for the Education Committee. Mr. H. Prosser, Architect to the Committee, High-street, Walthamstow:—

J. & J. Dean	£20,459	0	0
C. Roper	19,900	0	0
J. Appleby & Sons	19,630	0	0
B. E. Nightingale	19,198	0	0
Treasure & Sons	19,100	0	0
R. & E. Evans	18,590	0	0
J. Shelbourne & Co.	18,561	0	0
W. Lawrence & Sons	18,149	0	0
Gregar & Sons	18,081	0	0
Rowley Bros.	17,850	0	0
Kilby & Gayford	17,833	0	0
F. J. Coxhead	17,536	0	0
Pollard & Brand	17,444	0	0
Moss & Sons	17,243	2	11
W. J. Maddison	17,179	0	0
Knight & Sons, Tottenham*	16,572	0	0

WATERLOO (Lancs.).—For widening Brooke-road, for the Urban District Council. Mr. F. Spencer Yates, Surveyor, Town Hall, Waterloo:—

Executrix of the late W. F. Chadwick, 19, Leeds-street, Liverpool*	£2,146 9 3

WINGATE.—For new buildings for the Wingate Station Town Working Men's Club. Mr. E. T. Bailes, architect, Wood House, Wingate:—

S. & G. Colwell	£950	10	0
Dempster & Collins	849	10	10
Thos. Stubbins, Wingate*	800	0	0
J. W. Hope	770	0	0

WORTHING.—For making-up Shakespeare-road, from Manor-road to Tarring-road, for the Town Council. Mr. Frank Roberts, A.M.Inst.C.E., Borough Engineer and Surveyor, Worthing:—

D. & J. Hall	£952	J. A. East, St. Matthew's-road, Worthing*	£742
E. H. King	832		
A. Crane	783		

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LIVERPOOL: 6 and 8, HATTON GARDEN.
GLASGOW: 47 and 49, ST. ENOCH-SQUARE.
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